Fall Open 2019
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Tossups

1. **In a play set in this city, a woman uses a machine gun hidden within a "haunted" concertina to mow down a pair of shirtless Belgians covered in blood. It's not London, but a one-legged Congolese pygmy locked in a mahogany box ghost-writes the stories of a fraudulent author living in this city in Martin McDonagh's 2018 play *A Very Very Very Dark Matter*. In another play set in this city, a man compares decision-making to skiing, in that you can swerve right, swerve left, or think about it and die. To avoid speaking in a house (*)** bugged with listening devices, a pair of characters in this city embark on a stroll. This city is compared to an atom and its resident Margarethe ("MAR-guh-ret-tuh") to a nucleus in a play that explores why the German inventor of the uncertainty principle visited it in the midst of World War II. For 10 points, identify this title city of a Michael Frayn play centered on a meeting between Werner Heisenberg and native son Niels Bohr.
ANSWER: **Copenhagen**, Denmark
<INB, Drama>

2. **Studies by John O. Voll track the creation of scholarly "linking groups" formed through this action. A stock Sufi miracle involves saints doing this action unfeasibly quickly with the magical ability *ṭayy al-ʾarḍ* ("TYE al-ARD"). A surah named for this action opens by warning that on the Day of Judgment, "every nursing woman will forget what she nurses and every pregnant woman will deliver her load." The very odd word "*labbayk*" is repeated in a prayer for this action called the *talbīyyah* ("tal-BEE-yah"). Before passing the (*)** *mīqāt* ("mee-KAT"), those doing this action must achieve *iḥrām*, which involves eschewing clothes with knots or stitches for two-piece white robes. Women are uniquely *required* to pray with men during this action. The ʿumrah is a type of this action, which people can do to join the "Stoning of the Devil" and the run between Ṣafā and Marwah. For 10 points, describe this action, which can culminate in circling the Kaʿaba ("KAH-bah").
ANSWER: **travel**ing **to Mecca** [accept equivalents like **entering** or **pilgrimages to Mekkah/al-Haram**ayn and prompt on partial answers that do not mention the destination; accept the **hajj**; accept the **ʿumrah** until mentioned; accept answers like **traveling to Arabia** until "nursing" and prompt after; prompt on answers like "studying the Qurʾān, ḥadīth, or scripture" with "while also doing what?" until "nursing" and do not accept or prompt after] (*ṭayy al-ʾarḍ* or "folding up the Earth" is, delightfully, Ṣūfī teleportation)
<JG, Religion>

3. **Johan Thorsten Sellin argued that this condition was the main influence on European penal systems. The "double gesture" of "critical fabulation" and "narrative restraint" were used to "recover" stories of this condition in the first two books by Saidiya Hartman. The Lex Poetalia Papiria eliminated a Roman subtype of this condition called the *nexum*. In one region, people in this condition received "Derby's Dose," as described in Thomas Thistlewood's diary. "The World [people with this condition] made" subtitles Eugene (*)** Genovese's study *Roll Jordan Roll*. The story of a family with this condition was proven and repopularized by a Pulitzer-winning study by Annette Gordon-Reed. Nicole Hannah-Jones led a project on this condition that points to a ship's arrival to Point Comfort, Virginia as America's "true founding." For 10 points, name this condition studied by the New York Times' *1619 Project*, which is banned by the Thirteenth Amendment.
ANSWER: **slave**ry [accept any word forms or more specific types; accept **indenture**d servant; accept **bond**age and word forms; prompt on debt; prompt on answers identifying race or gender of slaves; prompt on answers like "being on slave-ships"; do not accept or prompt on answers suggesting doing the owning instead of being subjected to it]
<JG, European History (Commonwealth, Ancient, Historiography)>

4. **A documentary about this designer was released in 2019 after being blocked for 20 years; that documentary is titled *Celebration*. Sophie Dahl posed nude for an advertisement of a fragrance from this designer's fashion house, which had earlier courted controversy for naming it *Opium*. This man designed a high necked dress that is entirely covered with hand-stitched white bird of paradise feathers. Farah Diba wore the Noor-ul-Ain tiara and a sequined white gown designed by this man during her wedding to Reza Pahlavi. Before starting his own fashion house, this man transformed a house's "A line" into the wide flaring (*)** Trapeze line. This designer used blocks of monochromatic dyed fabrics for the seam-free dresses of his Mondrian collection. This man designed "Le Smoking," a tuxedo suit for women, after his time as a designer for Christan Dior. For 10 points, name this French designer who dominated the 1960s and was known by three initials.
ANSWER: Yves **Saint-Laurent** [or **YSL**; or Yves Henri Donat Mathieu-**Saint-Laurent**]
<AK, Fashion>

5. **This state invested 50 million dollars of its pensions into a rare coin fund run by Thomas Noe, who of course embezzled it. Richard Eberling, a redecorator hired by a city in this state, turned out to be a serial killer who likely commited the sensational murder of Marilyn Reese Sheppard. A representative from this state championed the cause of the Nazi John Demjanjuk ("dem-YAN-yuk") and died in a tractor accident after running against his former aide while in prison for racketeering. That man from this state and voted for Dennis (*)** Hastert over fellow Democrats for Speaker of the House in 2001. Jim Traficant was from this state, where Alan Freed started his career. The merger of power companies in a city in this state was wildly mismanaged by its mayor, Dennis Kucinich ("koo-SIN-itch"). In a photo taken in this state, Mary Ann Vecchio ("VEK-yoh") kneels over the dead body of Jeffrey Miller, a student protesting operations in Cambodia. For 10 points, name this state home to Kent State University.
ANSWER: **Ohio**
<JG, US History>

6. **A footnote written by this author discusses a thinker whose inability to distinguish men from women led him to call Countess Schnapper a "crafty old boy." A poet created by this author wrote the lyric "The Workman's Friend," which repeats the refrain, "A pint of plain is your only man." One of this author's narrators is nearly hanged for a crime actually committed by the peg-legged Martin Finnucane. A novel by this author is structured around its narrator's so-called "biographical reminisces," many of which involve his uncle criticizing him for lazing around in bed. At the end of one of this author's novels, the (*)** deceased narrator and John Divney approach an enormous man who asks them, "Is it about a bicycle?" A novel by this author features John Furriskey, Jem Casey and other creations of the writer Dermot Trellis, who is himself the creation of its Irish narrator. For 10 points, name this author of *The Third Policeman* and *At Swim-Two-Birds*.
ANSWER: Flann **O'Brien** [or Brian **O'Nolan**; accept **Dermot Trellis** if the player buzzes during the second sentence]
<INB, Long Fiction>

7. **The unusually *cis*-acting A protein initiates this process in PhiX174 ("fee-X-one-seven-four"). The efficiency of this process for pT181 decreases in *pcr3A* mutants of *S. aureus*. The P protein initiates this process by recruiting other proteins to the O protein binding site. The hairpin ribozyme catalyzes cleavage and ligation of intermediates produced by this process in the tobacco ringspot virus. In addition to conjugation, relaxases initiate this process. The packaging of the product of this process is directed by the action of terminase at (*)** *cos* sites in the lambda phage. The bidirectional theta type of this process is often contrasted with a form of it that produces concatemers ("con-CAT-uh-merz"). A tail composed of a linear series of complementary sequences is formed in the "rolling circle" form of this process. Helicases initiate this process by helping form a namesake fork. For 10 points, name this process that copies nucleic acids from a template.

ANSWER: nucleic acid **replication** [accept rolling circle **replication**; accept theta **replication**; accept DNA **replication**; accept RNA **replication**; accept rolling circle DNA **replication** or rolling circle RNA **replication**; accept plasmid **replication**, bacteriophage **replication**, or viroid.**replication**; prompt on <u>RCR</u>]
<JS, Biology>

8. **The only reference to this god's unnamed wife is in *Lokasenna*, in which Loki claims to have fathered her son. In the Poetic Edda, this god meets his nine-hundred-headed grandmother, whom he hates, but hides with the help of his golden-clad mother. This god was sometimes called "the god" or "the thing god," and is the Norse equivalent of the Proto-Indo-European chief deity (*)** *Dyḗws ph₂tḗr ("d'YAY-ooss puh-TAIR"). That is why the Germanic people are believed to have demoted this god in favour of Odin. In the Elder Futhark, this god's namesake rune resembles an upward-pointing arrow. This god and Thor borrow an enormous mile-deep cauldron in an Eddic poem that curiously names this god's father as the jötunn ("YOH-tun") Hymir ("HEE-meer"). *Gylfaginning* ("GHIL-vuh-ghinning") recounts how this god's bravery allowed the leash Gleipnir to be placed on the wolf Fenrir, but at the cost of this god's right hand. For 10 points, name this Norse god whose namesake weekday follows Monday.
ANSWER: **Týr** ("teer") [or **Tíw** or **Tīwaz**; do NOT accept "Tue"]
<KL, Mythology>

9. **A convergence theorem for these objects is proven with a lemma that places a bound on their expected number of "upcrossings." In contrast to the Stratonovich integral, the Itô ("EE-toh") integral is defined using a "forward difference" so that it is one of these objects. For these objects, convergence in L-one is equivalent to uniform integrability. The initial expected value of these objects is equal to the expected value at any stopping time, according to (*)** Doob's Optional Stopping theorem. These processes consist of a sequence of random variables adapted to a filtration that satisfies their namesake property. These processes are named for a betting strategy in which a gambler continues doubling the bet after every loss to try and guarantee a profit. These processes are defined as sequences in which the conditional expectation of the next value given all previous values is equal to the value at the current state. For 10 points, name these stochastic processes that model a "fair game."
ANSWER: **martingale**s [prompt on <u>stochastic process</u>es]
<NC, Math>

10. **These objects name a movement that occupied Elior's headquarters to protest being forced to staff administrative retention centers. That movement named for these objects stated "we come to the graves of your great men to denounce your disrespect" during another July 2019 occupation. The "Justice for Adama" committee has occasionally united with one movement named for these objects. After the police caused a music festival attendee to drown in a river, a movement named for these objects adopted the catchphrase "Where's Steve?" A movement fighting for the rights of the (*)** *sans-papiers* ("sahn-pah-p'YAY") is named for the black variety of these objects. The scrapping of the solidarity tax on wealth and a planned increase in fuel taxes led to a protest movement whose participants wear these objects. For 10 points, the slogan "Macron is concerned with the end of the world. We are concerned with the end of the month" is used by protestors wearing what yellow articles of clothing?
ANSWER: **vest**s [accept black **vest**s or yellow **vest**s; accept black **jacket**s or yellow **jacket**s; accept **gilet**s jaunes or **gilet**s noirs]
<JS, Current Events>

11. **A 1523 woodcut that curiously omits this person was labeled an "oblong passion" by Erwin Panofsky. In an Andrea Mantegna painting whose foreground depicts three men sleeping, a vulture perched on a bare tree frames this person leading a procession along a winding path. A fresco located in the Sant'Apollonia refectory placed this person in profile at its very center. In that fresco, whose trompe l'oeil ("tromp LOY") back wall is decorated with ornate marble panels, this is the only person located on the viewer's side of the**

central (*) table. This person appears draped in yellow robes as he grasps another man in a fresco from the Scrovegni ("scro-VEN-yee") Chapel. A fresco in the Santa Maria delle Grazie ("GRAH-tsee-ay") depicts this person dressed in flowing blue and green robes, knocking over a salt cellar with his right arm as he shrinks away from the central figure. For 10 points, identify this person shown in da Vinci's *Last Supper* clutching a small bag of silver.

ANSWER: **Judas** Iscariot

<INB, Painting and Sculpture>

Note to players: Two answers required.

12. **The "oxymoronic" relationship between these two authors is explored in a John T. Lysaker-edited anthology titled for them as "figures of friendship." In a bittersweet eulogy for one of these authors, the other lamented that, "instead of engineering for [his entire country, the deceased] was the captain of a huckleberry-party." At the age of 19, one of these authors first read the other's description of the wonder that men would feel if the stars only appeared "one night in a thousand years." These authors are the subjects of a pair of biographies written by Robert D. Richardson, the husband of (*)** Annie Dillard. The younger of these authors spent three years as a tutor to the other's children in his Concord home. These authors first met at Harvard in 1837, where the older of them delivered his "Divinity School Address" the following year. For 10 points, identify both of these authors, one of whom wrote "Self-Reliance" and helped finance the other's cabin on Walden Pond.

ANSWER: Ralph Waldo **Emerson** AND Henry David **Thoreau**

<INB, Miscellaneous Lit>

13. **A 1986 book by an early-career Randall Collins partly titled for this thinker revived the use of this thinker's ideas in the U.S. Stephen Kalberg argues that this thinker actually had four definitions of one key concept. An unfinished series by this thinker compared social effects of "exemplary prophets" to those of "messianic" ones. This thinker defined a "class" as a group sharing "a specific causal component of their life chances" and "stand" or (*)** "status" as sharing an esteemed "style of life." "Parties" join those two groups in this thinker's three-source model of social stratification. In one work, this thinker chides Richard Baxter's claim that his ideals were "a light cloak," since they in fact they became "a shell as hard as steel." That work by this thinker argues that "the calling" is now universal in market economies after the loss of the Calvinist religious impulse leading to said economies' emergence. For 10 points, name this author of *The Protestant Ethic and the Spirit of Capitalism*.

ANSWER: Max **Weber** [or Maximilian Karl Emil **Weber**]

<JG, Sociology>

14. **In 2004, BASF announced a method of industrially synthesizing diethoxyphenylphosphine ("di-ethoxy-phenyl-phosphine") utilizing these substances known as the BASIL process. The use of these substances for green chemistry was advocated for by Ken Seddon. These substances can coat a support in the SILP process developed by Peter Wasserscheid, who also founded a company that provides "Task-Specific" examples of them. Dissolution of cellulose can use one of these substances based on 1-ethyl-3-methylimidazolium ("one-ethyl-three-methyl-imide-azolium"), or (*)** EMIM. A variant of the Heck reaction uses a common one of these substances called BMIM-PF6. These substances are similar to deep eutectic solvents, and are formed because of the asymmetric shape of alkyl-substituted imidazolium ("imide-azolium") and pyridinium ("pyride-inium"), unlike compounds like sodium chloride. For 10 points, name these substances formed by bulky cations and anions that often have melting points below room temperature.

ANSWER: **ionic liquid**s [accept any of the following: **liquid electrolytes**, **ionic melts**, **ionic fluids**, **fused salts**, **liquid salts**, or **ionic glasses**; prompt on salts]

<AK, Chemistry>

15. **This city caught up with the Industrial Revolution after annexing the surrounding Gartenfeld region. After losing an election in this city to Diether ("DEE-ter") of Isenburg, Adolph II killed 400 of its inhabitants**

and revoked its city charter. A Jacobin club in this city evolved into a "republic" led by Georg Forster, the head librarian of its university. Peter Schöffer created a psalter named for this city with financial support from Johann Fust. Like the Vatican, this city's diocese ("DYE-oh-seess") is known as a Holy See. Albert of Brandenburg secured authority in both Magdeburg and this city by funneling profits from (*) Johann Tetzel's indulgences. The position of Arch-Chancellor of Germany was usually held by archbishops of this city, which is now the largest in the Rhineland-Palatinate. A text sometimes known as the B42 was mass-produced in this city after the introduction of movable type to Europe. For 10 points, name this city where Johannes Gutenberg established his printing press.
ANSWER: **Mainz** ("maints")
<KS, European History (Continental)>

16. **In Tien and Gordon's model for how this process was driven in samples of Al-Al2O3-In ("aluminum-aluminum-oxide-indium"), an electromagnetic field creates a time-dependent, spatially constant potential. For a potential that takes the form of (read slowly) the square of the quantity "_x_-squared minus _a_-squared," the tanh ("tan-H") solution predicts this process in the limit of infinite imaginary time. Instantons are named for the brief "instant" in which this process takes place. The presence of metastable states in between two rectangular potentials is responsible for the "resonant" form of this process used to create negative differential (*)** resistance in semiconductor devices. The transmission coefficient of this process is given as the exponential of an integral between two turning points in the WKB approximation. For 10 points, alpha decay happens because of what classically forbidden transition of a particle through a potential barrier?
ANSWER: quantum **tunneling** [or resonant **tunneling**; accept photon-assisted-**tunneling**; prompt on PAT]
<JS, Physics>

17. **In one essay, this philosopher argues that privileging "brute data" makes intersubjectivity "fall through the net of mainstream social science." This non-Bakhtin author of "Interpretation and the Sciences of Man" argues that "displacement of the moral accent" creates the moral value of "authenticity" during an attack on "monologic ideals." A work by this thinker concludes by discussing conflicts over whether to support a consensus moral order with theism, romanticism, or "the naturalism of disengaged reason" to argue that (*)** individualism does not _per se_ create the "malaise of modernity." This thinker uses Gadamer's idea of "fusion of horizons" and a "presumption of equal worth" to posit solution to liberalism's incompatibility with group demands like those of Quebec in an essay grounding multiculturalism in "the Politics of Recognition." For 10 points, name this Canadian philosopher who traced the origins of modern individualism in the magisterial _Sources of the Self._
ANSWER: Charles **Taylor** [Charles Margrave **Taylor**]
<JG, Philosophy>

18. **A leader of this ethnicity supposedly ended a protracted war begun by his uncle with a shout of "Kaffa!" or "Enough!" That man, Nūr ibn Mujāhid, served a dynasty of this ethnicity that traced its lineage to the creator of the Wadaad script. Sailors of this ethnicity used ships called _beden_. A man of this ethnicity had a revolt-inducing conniption when a man claimed to be "of the clan of the Catholic Fathers." Tristão da Cunha ("treesh-TAO dah KOO-n'yuh") repeatedly failed to conquer this people's hydraulic Ajuran Empire. The Walashma dynasty ruled this ethnicity's Ifat Sultanate and the Zeila-based Sultanate of (*)** Adal, which was led in one war by Aḥmad Gragn. The _xeer_ ("heer") is this people's customary law code. British bombers subdued a revolt of this ethnicity led by Muhammad Abdullah Hassan. That "Mad Mullah" led this ethnicity's "Dervish State." For 10 points, name this ethnicity, among whom more recent Islamist groups include the Islamic Courts Union and al-Shabāb.
ANSWER: **Somal**i people [accept obvious equivalents] (the creator of the Wadaad script, Yūsuf al-Kawneyn aka "Aw Barkhadle," also supposedly brought Islām to the Maldives; the "clan of the Catholic Fathers" incident is not always attributed to the "Mad Mullah" himself but always at least to one of the other inciters of the Dervish revolt)
<JG, Other History>

19. **In an elegy written by this poet, Themistocles ("themisto-kleez") tells Simonides ("sye-MON-ee-deez") to "invent differently," because "the past and present aren't connected!" This non-20th century poet blamed Love for clouding his "inspiration with torment" in one of his many sonnets that were translated into English by Richard Zenith. This poet described the "hideous phantom glare" of a black-lipped, blue-toothed figure whose initial appearance is presaged by an ominous, dark (*)** cloud. The protagonist of a poem by this writer observes the "glowing breast" of a floating "Isle of Love," where he attends a lavish feast hosted by Tethys ("teth-iss"). This poet wrote about a group that encounters the malevolent giant Adamastor in the fifth canto of a poem whose Virgil-inspired "argument" invokes the nymphs of the Tagus River. For 10 points, which Renaissance poet wrote *The Lusiads* in his native Portuguese?
ANSWER: Luís de **Camões** ("kah-MOYNSH") [or Luís Vaz de **Camoëns**]
<INB, Non-epic Poetry>

20. **A 1727 piece by J.S. Bach, commissioned by the University of Leipzig for an event of this kind, was later incorporated into his now-lost *St Mark Passion*. The Spanish composers Alonso Lobo and Tomás Luis de Victoria wrote motet settings of "*Versa est in luctum*," which are about these events. The *St Matthew Passion* shares its BWV number with a *different* J.S. Bach piece that was written for one of these events. A Henry Purcell piece titled for this kind of event is scored for chorus, flatt trumpets, and continuo, and was used by (*)** Wendy Carlos as the theme to *A Clockwork Orange*. One of these events is depicted in a C major march midway through Act III of Handel's oratorio *Saul*. Mozart wrote a 1785 piece for one of these events held by his Freemason brethren. In the Baroque period, the *tombeau* ("tom-BO") was a popular French genre about these happenings. For 10 points, identify this occurrence commemorated by a requiem.
ANSWER: **death** [or obvious equivalents; accept **funeral**; prompt on mourning or Trauer with "Why do they mourn?"]
<KL, Classical Music and Opera>

Bonuses

1. An iconic shot from this director shows a camera rotating around a girl speaking to her uncle about her mother's afterlife. For 10 points each:
[10] Name this director of *Ordet* who adapted Le Fanu's stories for the horror film *Vampyr*. His most acclaimed film was rediscovered in a psychiatric hospital in 1981.
ANSWER: Carl Theodor **Dreyer**
[10] This French director criticized the "grotesque buffooneries" of Dreyer's *The Passion of Joan of Arc* in favor of his own version of her trial. His *Notes on the Cinematographer* explained his preference for amateur actors to use as "models."
ANSWER: Robert **Bresson**
[10] Bresson, Dreyer, and Ozu were analyzed in Paul Schrader's *The Transcendental Style in Film*. Schrader is better known for his collaborations with this director of *Taxi Driver* and *Raging Bull*.
ANSWER: Martin **Scorsese** ("scor-SEH-see") [or Martin Charles **Scorsese**]
<JM, Film>

2. This play's 1789 translation by William Jones was in turn translated into German by Georg Forster, whereupon it was read by an author who borrowed from its prologue for his own "Prelude in the Theatre." For 10 points each:
[10] Identify this play which managed to combine, "in one sole name," the "earth and heaven itself," according to a 1791 epigram written by Johann Wolfgang von Goethe ("GUR-tuh").
ANSWER: *The Recognition of **Shakuntala*** [or *The Sign of **Shakuntala***]
[10] A poet, a stage manager and a clown argue over how this play will be received in its Kalidasa-inspired "Prelude in the Theatre." This two-part Goethe play follows a scholar's deal with the Devil.
ANSWER: *Faust*
[10] When he was 65, Goethe amassed poems about love, parables, and paradise into one of these collections. His book was inspired by an older one of these collections written by Hafez.
ANSWER: **diwan**s [or **divan**s; accept the *West-Eastern **Diwan*** or the *West-östlicher **Diwan*** or the ***Divan**-e-Hafez*]
<INB, Miscellaneous Lit>

3. Answer some questions about the Vaiśeṣika ("vye-SHESH-kuh") school of Indian philosophy, for 10 points each:
[10] Vaiśeṣika thought is based on a theory of seven of these concepts, like substance, quality, and action. Aristotle derives ten of them from the dichotomy of "said-of" and "present-in" to describe what can be predicated of other things in a namesake part of the *Organon*.
ANSWER: **categories** [accept singulars; accept **kategoria**i, **praedicament**a, or **padārtha**]
[10] The Vaiśeṣika divided the category of substances by what type of *paramāṇu* ("para-MAH-noo"), or these concepts, they reduce to. Democritus and Leucippus founded a Greek school of thought that based ontology on these "uncuttable" concepts.
ANSWER: **atom**s [accept word forms]
[10] The Vaiśeṣika held true knowledge to come from sense perception and inference, only two of these six modes of Sanskrit reasoning or "proofs." Schools of Indian philosophy are often distinguished by which they find valid.
ANSWER: **pramāna**s ("pruh-MAH-nuzz")
<JG, Philosophy>

4. Molecular orbitals can be constructed using a basis set of irreducible representations in the "symmetry adapted" type of these expressions. For 10 points each:
[10] Name this kind of expression. SALCs ("S-A-L-C's") are a special case of a general approach in which molecular orbitals are constructed from atomic orbitals using these expressions.
ANSWER: **linear combination**s [or **weighted sum**; accept **linear combination**s of atomic orbitals; prompt on sum; prompt on partial answers; prompt on LCs or LCAO]

[10] For dihydrogen, the superposition of two of this type of atomic orbital give its molecular orbitals. These ball-shaped atomic orbitals have a value of 1 for their principal quantum number.
ANSWER: **s** orbitals [or 1**s**]
[10] SALCs are created from the irreducible representations of character tables. In a character table, the second dimension Mulliken term and the operation in the first column are confusingly denoted by this letter.
ANSWER: **E** [accept any answer not specifying case; do NOT accept or prompt on lower case "e"]
<AK, Chemistry>

5. Answer three things about six composers of the Second New England School, for 10 points each:
[10] They were based around this Massachusetts city, where a Pops Orchestra was founded in 1885 to perform holiday concerts and light music.
ANSWER: **Boston**
[10] Amy Beach, the only woman of the Boston Six, included a folkish siciliana ("sicily-ana") movement in a piece of this genre titled *Gaelic*. A generation later, Charles Ives wrote one of these pieces titled *The Camp Meeting*.
ANSWER: **symphony**
[10] John Knowles Paine, the eldest of the Six, used this key to write his Symphony No. 2, titled *In Spring*. This is also the key of the piano piece "To a Wild Rose" by Edward MacDowell, another of the Six.
ANSWER: **A** major [do NOT accept "A minor" or "A-sharp" or "A-flat"]
<KL, Classical Music and Opera>

6. Although originally only designed PMAS and MPFS, the 2.0 and newer versions of the p3d data reduction software can handle data from a variety of instruments used in this technique. For 10 points each:
[10] Name this technique that uses instruments like TIGER ("tiger") and SINFONI ("symphony") . Unlike long-slit spectroscopy, this form of spectroscopy outputs a data cube by simultaneously generating spectral data for each sample in a two-dimensional field.
ANSWER: **integral field** unit spectroscopy [or **IFU** spectroscopy; accept **integral field** unit spectrograph or **IFU** spectrograph]
[10] TIGER is an IFU spectrograph installed on the CFH telescope in this location. This location is also home to the Keck telescopes that were used to discover the Andromeda galaxy was three times bigger than expected.
ANSWER: **Mauna Kea** observatories [or **Mauna a Wakea** observatories; accept descriptive answers that mention **Mauna Kea** or **Mauna a Wakea**; prompt on Hawaii; prompt on Hawaii island or the Big Island]
[10] Integral field spectroscopy allows scientists to correct for this phenomenon in the atmosphere. This phenomenon is the bending of light towards or away from the normal.
ANSWER: **refraction** [accept atmospheric **refraction**; accept differential atmospheric **refraction** or atmospheric differential **refraction**]
<JS, Astronomy>

7. Whilst a student at Cambridge, this author enlisted in the military under the fake name "Silas Tomkyn Comberbache," with which he shares its initials. For 10 points each:
[10] Name this British Romanticist who wrote *The Rime of the Ancient Mariner*.
ANSWER: Samuel Taylor **Coleridge**
[10] Black British composer Samuel Coleridge-Taylor, the so-called "African Mahler," wrote a trilogy of pieces in this genre titled *The Song of Hiawatha*. Mahler himself wrote one titled *Das klagende Lied* ("das KLAH-gun-duh LEET").
ANSWER: **cantata**
[10] Coleridge-Taylor Perkinson's String Quartet No. 1 is named for this Latin word, which the Vulgate uses as the translation of the Aramaic "*golgotha*."
ANSWER: **Calvary** [or **Calvariæ**; do not accept or prompt on "cavalry"]
<KL, Other Academic>

8. Rafael del Riego led a brief period of liberal government under this monarch, who was restored by a French force nicknamed the "Hundred Thousand Sons of Saint Louis." For 10 points each:
[10] Name this monarch who faced several revolts during the last ten years of his reign, known as the "Ominous Decade." The exclusion of Carlos de Borbón from his line of succession sparked the Carlist Wars.
ANSWER: **Ferdinand VII** ("the-seventh") of Spain
[10] At the beginning of the Liberal Triennium, the Archbishop of Toledo abolished this Catholic institution that severely punished those deemed as heretics, though it was briefly reinstated.
ANSWER: Spanish **Inquisition** [or the Tribunal of the Holy Office of the **Inquisition**]
[10] After a popular revolt, this general led the Progressive Biennium during Isabella II's reign. This man was stylized as the Prince of Vergara after negotiating peace terms with Rafael Maroto to end the First Carlist War.
ANSWER: Baldomero **Espartero** [or Joaquín Baldomero Fernández-**Espartero** y Álvarez de Toro]
<KS, European History (Continental)>

Note to moderator: You may censor the expletives in this question by spelling them instead.
9. A novel by this author opens as its narrator imagines that his obituary will simply state that he was "SURVIVED BY AN APARTMENT FULL OF SHIT." For 10 points each:
[10] Name this author who included that character's obituary, titled "The Death of Leopold Gursky," as the brief final chapter of her 2005 novel *The History of Love*.
ANSWER: Nicole **Krauss**
[10] In 2004, Krauss married this author, whose novel about Oskar Schell bears many similarities to Krauss's *The History of Love*. More recently, this author wrote about Jews living in D.C. in the novel *Here I Am.*
ANSWER: Jonathan Safran **Foer**
[10] In Krauss's *The History of Love,* Alma heaps admiration onto this pilot, who "risked his life to open mail routes to remote places." He disappeared over the Mediterranean a year after he wrote *The Little Prince.*
ANSWER: Antoine de **Saint-Exupéry** ("SAN-teg-zoo-per-REE") [or Antoine Marie Jean-Baptiste Roger, comte de **Saint-Exupéry**]
<INB, Long Fiction>

10. Nestor Kirchner and Lula da Silva proposed an alternative to this set of principles at a meeting in Buenos Aires attended by one of its most outspoken critics, Joseph Stiglitz. For 10 points each:
[10] Name this set of neoliberal economic principles that the IMF heavily promoted in Latin America and other developing areas during the 1990s. It is named after the city where its formulator, John Williamson, worked at the Peterson Institute for International Economics.
ANSWER: **Washington Consensus**
[10] Carlos Menem's "convertibility plan," which was based on the Washington Consensus, addressed this country's growing hyperinflation. Menem's policies in this country shifted away from those of Juan Perón.
ANSWER: **Argentina** [or **Argentine** Republic; or República **Argentina**]
[10] Despite comparing the IMF's policies to a "neutron bomb," this politician implemented the Washington Consensus's principles after winning a 1989 election, resulting in a wave of riots known as the Caracazo ("kah-rah-KAH-soh").
ANSWER: Carlos Andrés **Pérez** [or Carlos Andrés **Pérez** Rodríguez; or **CAP**]
<KS, Other History>

11. This political scientist founded and heads the Electoral Integrity Project, which in 2016 controversially rated the integrity of elections in North Carolina and Wisconsin as similar to the integrity of Rwanda's. For 10 points each:
[10] Name this author of *Digital Divide.* With Ronald Inglehart, this scholar links women's rights advances to a swing by younger generations of women to the political and cultural left relative to older women in *Rising Tide*.
ANSWER: Pippa **Norris**

[10] Inglehart and Norris's recent work attributes rises in support for right-wing populist parties like UKIP ("yoo-kip"), led until 2016 by this British politician, to generational divides. This major Brexit campaigner leads the Brexit Party.
ANSWER: Nigel **Farage** [or Nigel Paul **Farage**]
[10] Norris and Inglehart have also argued that experiencing "existential security" bolsters this sort of worldview. Talal Asad argued that it is defined by excluding its opposite, often by force of law, in a work on its *Formations*.
ANSWER: **secular** worldviews [accept word forms; accept answers like **irreligious** or **disenchanted** worldviews even though "secular" really is the precise term used by all scholars mentioned; anti-prompt on atheist or agnostic; prompt on materialist]
<JG, Other Academic>

12. For 10 points each, answer questions about how microstructures are altered to improve mechanical properties.
[10] The process of austenitizing-quenching-tempering is applied to this alloy to create a thermally unbalanced microstructure that is very hard. Phase diagrams for this alloy plot temperature versus percent carbon.
ANSWER: **steel**
[10] While quenching improves hardness, annealing improves machinability by heating a material through this process. In this process, grains deformed by stress are replaced by a new set of grains that then nucleate.
ANSWER: **recrystallization** [prompt on crystallization]
[10] Process parameters such as power, scan speed, and scan spacing can be optimized to obtain the desired microstructure in this process. This additive manufacturing process is being researched by aviation companies because it allows the design of Ti-Al6-V4 ("titanium-aluminum-six-vanadium-four") components without worrying about machinability.
ANSWER: **selective laser melting** [or **SLM**; accept **selective laser sintering** or **SLS**; accept **direct metal laser sintering** or **DMLS**; accept **laser powder bed fusion** or **LPBF**]
<JS, Physics>

13. In his memoir titled for *Reminiscences of* this city, Louis Cohen recounted an incident in which an octoroon auctioned herself off for three cases of champagne. For 10 points each:
[10] Identify this town where the Fenian newspaper editor Alfred Aylward mounted the Black Flag Revolt. On visiting it in 1877, Anthony Trollope stated, "an uglier place I do not know how to imagine."
ANSWER: **Kimberley**
[10] Dr. Josiah Matthews described the rampant alcoholism that afflicted people with this profession in Kimberley. Members of this profession created Kimberley's Big Hole and worked for companies like Cecil Rhodes's De Beers.
ANSWER: diamond **miner**s
[10] A resident of Kimberley with this surname owned the town's newspaper, as well as its only brick residence. A British administrator with this surname and the first name Hercules split with Cecil Rhodes following the Jameson Raid.
ANSWER: **Robinson** [accept Joseph B. **Robinson** or Hercules **Robinson**]
<INB, European History (Commonwealth, Ancient, Historiography)>

14. A man of this name became a beloved governor of Judah under Nebuchadnezzar ("nebu-kad-nezzar") but refused to believe reports of a plot against him because he could not fathom the level of treachery described. For 10 points each:
[10] The murder of the citizens of Mizpah and of that man of this name by Ishmael ben Nethaniah completed the fall of the kingdom of Judah, and is commemorated by a namesake fast between Rosh Hashanah and Yom Kippur.
ANSWER: **Gedalia** [or **Gdalyyahu**]
[10] Survivors of Gedalia's murder did not heed this prophet's advice to submit to Nebuchadnezzar rather than flee to Egypt. This "weeping prophet" prophesied the destruction of Jerusalem for sins like sacrificing kids to Moloch ("mo-lock").

ANSWER: **Jeremiah**

[10] Gedalia's grandfather Shaphan ("shafen") was the main scribe for this event prompted by the priest Hilkiah's discoveries. This event removed emblems of Ba'al ("bale" or "ball"), and the seer Huldah claimed its righteousness postponed Jerusalem's sack.

ANSWER: the **deuteronomic reform** [accept answers describing King **Josiah's reform**s; accept descriptive answers like Hilkiah's **uncovering of the Book of Law** or the **discovery of the Book of Deuteronomy**; prompt on partial answers]

<JG, Religion>

15. In the poem "Let us stop and weep," the speaker slaughters one of these animals, then compares its fat and tendons to "loose fringes of white twisted silk." For 10 points each:

[10] Identify these animals. An incident in which a poet and his brother lost some of these animals, only to receive one hundred of them as a gift, inspired Tarafa's "Suspended Ode."

ANSWER: **camel**s

[10] Eunice Tietjens' version of Tarafa's "Suspended Ode" describes the camel's cheek as "smooth as paper" from this country. This country's dissident poet Adunis set his 1961 collection about Mihyar ("mee-h'YAR") in its capital.

ANSWER: **Syria** [or **Syrian Arab Republic**; or al-Jumhūrīyah al-ʿArabīyah as-**Sūrīyah**]

[10] The Syrian Adunis writes in this language, which was used by Tarafa and Imru' al-Qais to compose two of the seven "Suspended Odes" that were hung up in the Ka'aba ("KAH-bah").

ANSWER: **Arabic**

<INB, Non-epic Poetry>

16. Henry A. Smith made a controversial translation of a speech by this man that declares "There is no death, only a change of worlds." For 10 points each:

[10] Name this chief of the Duwamish and Suquamish tribes, who agreed to transfer land in the Treaty of Point Elliott. A speech given by this man to a colonial governor was repurposed by environmentalists in the 1970s.

ANSWER: Chief **Seattle** [or **Sealth** ("SEE-alth")]

[10] Chief Seattle's speech was addressed to this governor, who executed Chief Leschi ("LEH-shy") and declared martial law after the Yakima War, earning him a condemnation from Franklin Pierce.

ANSWER: Isaac **Stevens** [or Isaac Ingalls **Stevens**]

[10] A fabricated letter from Chief Seattle to Franklin Pierce denounces the systematic shooting of these animals from trains, something Seattle likely never saw. William Cody made a career off of hunting these animals.

ANSWER: **buffalo**es [or American **bison**]

<KS, US History>

17. The ratio of the fluence rate of light in these *two* spectra is used to measure the effect of canopy shading. For 10 points each:

[10] Name these *two* spectra within visible light. Absorption of one of these spectra by phytochrome converts it to a form that absorbs the other of these spectra.

ANSWER: **red** and **far-red**

[10] Treatment of seeds with red light converts phytochrome to its active Pfr ("P-F-R") form that stimulates this process. Imbibition begins this process in which the radicle emerges from the seed coat.

ANSWER: **germination** [accept **sprout**ing]

[10] Phytochromes and cryptochromes control de-etiolation ("dee-EE-tee-olation"), the response of a plant to light after being grown in darkness. During de-etiolation, the apical hook opens and these embryonic leaves unfold and expand.

ANSWER: **cotyledon**s ("KAH-tul-EE-dunz")

<JS, Biology>

18. Upon his arrival, this deity feuds with the native god Moreya for sovereignty over Nagano and central Japan. For 10 points each:
[10] Name this ancestral god of the Suwa clan, who fights the similarly-named Takemikazuchi ("TAH-keh-MEE-kah-ZOO-chee") in the first sumo wrestling match.
ANSWER: **Takeminakata** ("TAH-keh-MEE-nah-KAH-tah")
[10] Takeminakata is most commonly the grandson of this Japanese storm god and brother of Amaterasu.
ANSWER: **Susano'o** ("SOO-sah-noh-OH") [or **Susanoo**-no-Mikoto]
[10] Takeminakata succeeds his father Okuninushi ("OH-KOO-nee-NOO-shee") as the ruler of this historical region of Japan. This is where Okuninushi helps the hare of Inaba, and where Susanoo slays Yamato-no-Orochi.
ANSWER: **Izumo** [or **Unshū**]
<KL, Mythology>

19. Identify the following authors who wrote about increasingly exotic meals in their stories, for 10 points each:
[10] The red-nosed Goi aspires to eat his fill of the title foodstuff in this author's "Yam Gruel." This author included three varying accounts of a samurai's death in the story "In a Grove."
ANSWER: Ryūnosuke **Akutagawa**
[10] In a story by this author, a young boy throws up a bunch of dates that his greedy grandfather took from Masood. This Sudanese author also penned the novel *Season of Migration to the North.*
ANSWER: Tayeb **Salih**
[10] The narrator is cooked alive in "Dinner," the first story in this author's debut collection *Unclean Jobs for Women and Girls.* This author also wrote about a schoolteacher who lusts after eighth graders in the novel *Tampa.*
ANSWER: Alissa **Nutting**
<INB, Short Fiction>

20. In a book titled for this artist's "Dark Night of the Soul," James Spates described his *Self-Portrait in Blue Neckcloth* as a "portrait of a soul divided." For 10 points each:
[10] Identify this artist, whose *Study of Gneiss* ("nice") *Rock* resembles the backdrop of a portrait of him painted by one of his contemporaries in which he stands in front of a waterfall in Glenfinlas.
ANSWER: John **Ruskin**
[10] Ruskin's portrait was painted by John Everett Millais ("mill-LAY"), a member of this "Brotherhood" alongside William Holman Hunt and Edward Burne-Jones. Ruskin encouraged their return to pre-Mannerist composition.
ANSWER: **Pre-Raphaelite** Brotherhood [or the **Pre-Raphaelite**s; or **PRB**]
[10] Ruskin produced an oval portrait of Rose La Touche ("toosh"), a student who inspired his treatise titled for *Sesame and* these objects. These objects appear twice in the title of a painting that depicts Dolly and Polly Barnard lighting paper lanterns.
ANSWER: **lilies** [accept *Sesame and **Lilies*** or *Carnation, **Lily**, Lily, Rose*]
<INB, Painting and Sculpture>