TOSSUPS

1. A 2010 book by Joseph Ellis is framed around these documents, one of which compares Albert Gallatin to Cassius and criticizes him as an "imported foreigner." A response to one of these documents claims that if its suggested changes were implemented, "the despotism of the petticoat" would result. The author of some of these documents reiterated to Mercy Otis Warren that a class of people would be determined to "foment a rebellion" if proper attention was not paid to their needs. One of these documents declares, "All men would be tyrants if they could," before asking the Continental Congress to "remember the ladies." For 10 points, identify these correspondences between a first lady and her husband, the second president of the United States.
ANSWER: **letter**s between John **Adams** and Abigail (Smith) **Adams** [accept any answer reflecting written **communication**s between John and Abigail **Adams**; accept **letters** between John **Adams** and his **wife**; accept **letter**s between Abigail **Adams** and her **husband**; prompt on answers that only mention John or Abigail Adams; prompt on letters by asking "between who?"]
<American History>

2. This philosopher imagined *Othello* being rewritten to read like a dry newspaper article to demonstrate the "compound nature of tragic effects" in a book section on "expression," which he felt to be less important than artistic form. This thinker, who declared the Bible "literature, not dogma" in an introduction to Spinoza's *Ethics*, was a self-described "aesthetic Catholic." This critic of America's "genteel tradition" defined beauty as "pleasure objectified" in *The Sense of Beauty* and wrote that individuals must blindly trust the data of their senses by employing "animal faith." For 10 points, name this Spanish-American thinker who claimed that "philosophy begins *in medias res*" and declared, "Those who cannot remember the past are condemned to repeat it."
ANSWER: George **Santayana** [or Jorge Agustin Nicolas Ruiz de **Santayana** y Borras]
<Philosophy>

3. Plays in this genre often use plots from mythical tales about Prince Panji. Plays in this genre often include a recurring character named Chú Tễu, or "Uncle Joker." A play in this genre begins on the Day of the Rat and describes Hard Luck Yohei. In another play in this genre, a villainous character offers his own left eye to a prince; that character is Ri Tōten. A Vietnamese type of this genre involves characters moving over pools of water. Subtypes of this genre include historical *jidaimono* and domestic *sewamono*. Indonesian plays in this genre are known as *wayang*. This genre includes plays such as *The Courier for Hell* and *The Battles of Coxinga* ("cok-SING-uh") by Chikamatsu Monzaemon. For 10 points, Japanese *bunraku* is an example of what broad type of play, in which humans operate wooden or leather characters?
ANSWER: **puppet** plays [accept **bunraku** before read; accept ***ningyō** jōruri*; accept ***wayang*** before read; accept water **puppet**ry or Múa **rối** nước; accept shadow **puppet**s; prompt on love-suicide plays or *Shinjū*; prompt on tragedy]
<World Literature>

4. This quantity is central to a formalism developed by Runge ("run-GUH") and Gross for calculations including a time dependent external scalar field. The derivative of this quantity is specified by the Kato cusp condition at nuclear positions. This quantity and its spatial derivatives are the only inputs to the generalized gradient approximation to calculate exchange and correlation energy. This quantity uniquely specifies the ground state energy according to the Hohenberg–Kohn theorems. The kinetic energy equals an integral of this quantity to the five thirds power in the Thomas–Fermi model. This quantity can be calculated from the modulus squared of the orbital wave function. For 10 points, name this quantity that specifies the spatial distribution of electrons and is central to a namesake "functional theory."
ANSWER: electron **density** [accept probability **density**; accept **density** functional theory; prompt on n or rho]
<Chemistry>

5. In a 1957 movie from this country, the camera lifts into the air at the end of a single shot depicting a woman running off a bus and through a parade. A female director from this country made a film about a rueful ex-pilot who works as a high school principal; that director from this country made *The Ascent* and *Wings* before dying at age 41. 12,000 extras provided by this country's army circle a film's director who suffered two heart attacks while creating a 10-hour epic. After burning a church in a film from this country, soldiers pose for a picture with a gun pointed at a boy's head. Films from this country include *The Cranes Are Flying* and a film in which three men search for a wish-granting "Room" in a location called "the Zone." *Come and See* is a film from, for 10 points, what home country of *Stalker* director Andrei Tarkovsky?
ANSWER: **Soviet Union** [or the **USSR**; or **Union of Soviet Socialist Republic**s; or the **CCCP**; prompt on Russia; prompt on Belarus; prompt on Ukraine; prompt on Estonia] (The female director is Larisa Shepitko. The 10-hour epic is Sergei Bondarchuk's *War and Peace*.)
<Other Fine Arts>

6. The death of this ruler's wife during an eclipse was noted as a bad omen in the *Croyland Chronicle*. Diego de Valera suggests that a "Lord Tamorlant" betrayed this ruler during a battle before which this ruler held the Baron Strange hostage in an unsuccessful attempt to force the cooperation of the baron's father, Thomas Stanley. Researchers at the University of Leicester ("LESS-ter") attributed this ruler's death to a halberd-strike to the skull. This ruler passed the *Titulus Regius* to invalidate the succession of the children of Elizabeth Woodville. In 2012, the remains of this ruler were discovered under a parking lot near Ambion Hill. This brother of Edward IV possibly murdered the Princes in the Tower. For 10 points, name this last Yorkist king of England, who was killed at the Battle of Bosworth Field.
ANSWER: **Richard III** of England [prompt on Richard]
<Other History>

7. Adolf W. Lohmann and colleagues were the first to replicate this technique with a computer by using the detour phase principle. Information is encoded in a manner equivalent to the modulation of a carrier wave in this technique's off-axis setup. A second result of this technique that is pseudoscopic, or "inside out," is usually produced in addition to the intended result that is orthoscopic, or "right side out." In the reflection form of this technique, Bragg planes created by positioning the recording plate parallel to the interference pattern allow the reconstructing beam to be white. Dennis Gabor won a Nobel for inventing this technique, which records both phase and amplitude information, unlike photography. For 10 points, name this technique that records and recreates 3D images.
ANSWER: **holography** [or **hologram**s; accept digital **holography** or digital **hologram**s; prompt on image reconstruction before "reconstructing"]
<Physics>

8. During a raid in retaliation for the theft of cattle (emphasize) *from* this city, Comaetho treacherously cut off Pterelaus's lock of golden hair. This city was founded at a site where a hero encountered a mushroom. During a contest for rule over this city, a man presented a golden fleece given to him by Aerope ("ay-RO-pee"), while another man claimed that the Sun would rise in the west and set in the east to demonstrate Zeus's favor. This city was founded after Perseus exchanged the throne of Argos for that of Tiryns ("TEER-ins"). A ruler of this city murdered his brother's children and fed them to him, but was later himself killed by Aegisthus. After the Trojan War, a king of this city was murdered by his wife Clytemnestra ("KLAI-tem-NESS-truh"). For 10 points, Atreus ("AY-tree-uhs") was king of what Greek city, where a golden funerary mask attributed to Agamemnon was unearthed?
ANSWER: **Mycenae** ("my-SEE-nee")
<Mythology>

9. In a story whose title references this poem, the narrator realizes that his black maid, Della, refers to "wreaths" when she says someone is there with the "reeves"; that story is by James Thurber. A character says that this poem "fill[s] my head with ideas" but sums it up as "somebody killed something." The author wonders if the French words "huilasse" ("HWEE-lass") would be better than "lubricilleux" ("LOO-bree-see-LOO") in capturing this poem's aim in a Douglas Hofstadter essay titled for this poem's "translations." A man cries, "Come to my arms, my beamish boy!" in this poem, which is read by holding a mirror up to it. This poem's narrator is told to "beware the jubjub bird" and the title monster, which he kills with a "vorpal blade." The line "'Twas brillig, and the slithy toves" opens, for 10 points, what nonsense poem by Lewis Carroll?
ANSWER: "**Jabberwocky**" (The Thurber story is "What Do You Mean It *Was* Brillig?")
<British Literature>

10. This is the elder of the two known composers who collaborated on the cantata *Per la ricuperata salute di Ofelia* ("pair lah ree-coo-peh-RAH-tah sah-LOO-tay dee oh-FAY-lee-ah"), which Timo Jouko Herrman rediscovered in 2015. In honor of his mentor Florian Leopold Gassman, this composer of a set of 26 orchestral variations on *La Folia* gave free music lessons to Beethoven, who in turn wrote variations on the duet "La stessa, la stessissima" from this composer's pre-Verdi opera *Falstaff*. This composer reworked his opera *Tarare* ("tah-RAH-ray") into *Axur, re d'Ormus* ("ack-soor ray DOR-moose"), whose finale is featured in a film in which F. Murray Abraham portrayed him. A "Little Tragedy" by Alexander Pushkin perpetuated rumors about this composer that were furthered by a 1984 Miloš Forman film. For 10 points, name this Italian composer who was falsely maligned for poisoning his younger rival Mozart.
ANSWER: Antonio **Salieri**
<Classical Music>

11. This action is performed after the lifting of a sheet to reveal a missing idol in a ceremony of the Ndembu ("in-DEM-boo"). In *Analects* book 17, section 4, Confucius, does this when he asks, "Does one chop up a chicken with a beef cleaver?" In Sarma Tibetan tantric practice, couples do this together as part of the Kriya yoga before moving on to mutual gaze, holding hands, and sexual union. In a Jewish story, Baal Shem Tov confusingly does this when presented with food at a Sabbath meal. John Chrysostom argued Christians should avoid this action since Jesus is never portrayed doing it. The Hebrew name Isaac translates as this action, referencing the fact that his parents Sarah and Abraham did this after God told them they would have a child in their old age. For 10 points, name this intended physical response to Rabbi jokes.
ANSWER: **laughter** [accept word forms like **laugh**ing; accept **joking** or **jest**ing or **mocking** or **making fun** of; accept telling a **joke**; accept pulling a **prank**; accept pulling a practical **joke**; prompt on experiencing humor or comedy]
<Religion>

12. This ion is bound by the F-box protein COI1 ("C-O-I-one"), which forms a co-receptor with the JAZ ("jazz") degron to recognize jasmonates. David Tilman found that limitation of this ion leads *Asterionella* to dominate *Cyclotella*, unlike silicate limitation. This ion and methylerythritol name a plastidial pathway of isoprenoid biosynthesis. Starvation of this ion causes anthocyanin overproduction. The legume "antinutrient" phytate contains six equivalents of this ion around an inositol. Mining of this leaching-resistant anion ("AN-ai-on") created pinnacles on Banaba and Nauru ("NOW-roo"). 3-PGA accepts an inorganic monomer of this anion in the Calvin cycle, which regenerates a carbon acceptor containing two of them bound to ribulose, RuBP. For 10 points, N-P-K fertilizers contain nitrate, potassium, and what anion that can be hydrolyzed from ATP?
ANSWER: **phosphate** [or [**PO₄**]³⁻ ("P-O-4-3-minus"); accept inorganic **phosphate**; accept ribulose 1,5-bis**phosphate**; accept rock **phosphate** or **phosphorite**; accept super**phosphate**; accept poly**phosphate**s; accept inositol hexakis**phosphate**; prompt on RuBP; prompt on P or Pᵢ] (The methylerythritol phosphate (MEP) pathway is also called the non-mevalonate pathway.)
<Biology>

13. A poem named for this place lists "absurd paintings, pictures over doorways, stage sets, carnival backdrops" as "What I liked." The narrator of that poem named for this place lists vices that he inherited from the Gauls and says that he "armed [himself] against justice" and "called for executioners." In this location, a woman calls another woman "my glancing stream! My crystal!" and calls herself a "lark-mirror." The section "Bad Blood" is part of a poem named for this place, where a widow prays to the Celestial Bridegroom and the narrator "invented colors for the vowels." That poem named for this place begins "Once…my life was a banquet" and has two "Delirium" sections. For 10 points, an Arthur Rimbaud poem is titled "A Season in" what place, which Garcin in *No Exit* says "is other people"?
ANSWER: **hell** [accept "**hell** is other people"; accept *A Season in **Hell*** or *Une Saison en **Enfer***; prompt on descriptive answers like "the room from *No Exit*" or the room from *Huis Clos*]
<European Literature>

14. For a book partially titled for the "Great Powers" and this city, Edward Mead Earle won the first American Historical Association prize for European international history. A 2016 documentary film on Gertrude Bell is titled for her "Letters from" this city, where she established an antiquities museum and published *The Desert and the Sown*. British soldiers worried that enemy forces would flood this city after its fall in 1917. Wilhelm von Pressel is known as the "father" of a structure named for this city that was financed by Georg von Siemens, a Deutsche Bank founder. One cause of World War I was the threat of German expansionism via the construction of a railway from Berlin to this city. For 10 points, the easternmost Ottoman Vilayets were based in Basra, Mosul, and which other Iraqi city?
ANSWER: **Baghdad** [accept Berlin–**Baghdad** Railway; accept **Baghdad** Vilayet or Vilâyet-i **Bagdad** or **Bağdat** Vilâyeti; accept *Turkey, The Great Powers, and the **Baghdad** Railway*; accept *Letters from **Baghdad***]
<European History>

15. After attending a GOP political summit, a member of this family reported, "A guy with an undercut called me 'soy boy.'" An awkward member of this family who hits on a contessa eighth in line for the throne of Luxembourg is nicknamed for looking like a misshapen egg as a newborn. Members of this family were forced to eat sausages off the ground while playing "Boar on the Floor." During his sister's wedding in England, a member of this family fails to save a waiter from drowning after a drug-fueled car wreck. Tom Wambsgans marries into this family, whose foremost failsons are Roman and Kendall. The media company Waystar is controlled by, for 10 points, what family whose patriarch Logan is played by Brian Cox on HBO's *Succession*?
ANSWER: **Roy** family [accept **Hirsch** family]
<Pop Culture>

16. An artist best known for work in this medium founded the Ladies of the Arts collective and was included in an exhibition on "Masters" of this medium held at a museum dedicated to it in Miami. A landmark exhibition of work in this medium titled *GAS* was held at New York's Fashion Moda in 1980. An art duo who worked in this medium created a work presenting themselves as "an alternative to mass-produced individuality." An artwork in this medium depicts a skull holding out a zero dollar bill and features many of the artist's signature outlined figures dancing. Art in this medium was created by the duo SAMO ("same-oh"). This medium was used to create a work that declares *Crack is Wack* by Keith Haring. For 10 points, outdoor art in what medium is often created with spray paint?
ANSWER: **graffiti** art [or **street art**; accept **tagging**; prompt on <u>mural</u>s; prompt on art painted directly onto <u>wall</u>s or <u>building</u>s or <u>train</u>s; prompt on <u>spray paint</u> by asking "used to make what type of artwork?"; prompt on <u>public</u> art]
(The artist in the first sentence is Lady Pink. SAMO was composed of Jean-Michel Basquiat and Al Diaz.)
<Painting/Sculpture>

17. A prime minister with this surname released the Land Use Plan and Population White Paper two years before a 2015 Golden Jubilee. A Grand National Party president with this surname was denounced in 2008 protests over beef imports after he negotiated the KORUS ("chorus") free trade agreement. A prime minister with this surname industrialized Jurong, created the Housing Board that demolished kampongs after the 1961 Bukit Ho Swee fire, and launched the anti-Hokkien ("hawk-kee-en") Speak Mandarin Campaign. Under that prime minister with this surname, the southernmost "Asian Tiger" became a high-income port in the former Straits Settlements after its brief federation with Malaysia. For 10 points, give this surname shared by a current leader of the People's Action Party, Hsien Loong, and his father, the modern founder of Singapore, Kuan Yew.
ANSWER: **Lee** [accept **Lee** Kuan Yew or **LKY** or Harry **Lee** or **Lǐ** Guāngyào; accept **Lee** Hsien Loong or **Lǐ** Xiǎnlóng; accept **Lee** Myung-bak]
<World History>

18. In his discussion of this character, Charles Burkhart remarked that "people on the pavement" view this character as "a familiar illusion which brightens their drab lives," which is exemplified by the quote "on we worked, and waited." This character is called "admirably schooled in every grace" in a poem. This character, who first appeared in the collection *The Children of the Night*, "flutters pulses when he said, / 'Good-Morning'" and "glittered when he walked." This "clean favored" and "imperially slim" resident of Tilbury Town is described as "richer than a king" and "a gentleman from sole to crown." For 10 points, name this title character who, despite his wealth, "one calm summer night, / Went home and put a bullet through his head" in a poem by Edwin Arlington Robinson.
ANSWER: **Richard** Cory [or Richard **Cory**]
<American Literature>

19. Arnold Zellner developed "micro" and "macro" tests for bias named for this term, which arises from transforming data at a given granularity. Real GDP affects the "induced," but not "autonomous," form of a quantity described by this adjective that equals consumption plus planned investment. This adjective describes another quantity that displays three ranges, like a "classical" vertical line in the long run. The two curves in the IS–LM model combine to form a third quantity described by this adjective that slopes downward against price due to consumption's wealth effect and investment's interest rate effect; shifts in that measure of total planned expenditure move a macroeconomic equilibrium closer to potential GDP. For 10 points, the "A's" in the AD–AS model stand for what term for total supply and demand?
ANSWER: **aggregate** [accept **aggregate** demand or **domestic final** demand; accept **aggregate** supply or **domestic final** supply; accept **aggregate** expenditure; accept **aggregate** data or **aggregation** bias; prompt on <u>AD</u> or <u>AS</u> by asking "what does that stand for?"; prompt on <u>effective</u> or <u>domestic</u> or <u>final</u> by asking "what other adjective describes that quantity?"]
<Social Science>

20. The response of these structures to various conditions is studied in flume experiments. Exchange of groundwater and surface water across these structures is called hyporheic flow. The Exner equation expresses the conservation of mass by setting the time derivative of the elevation of these structures equal to the negative divergence of flux from them. The entrained load named for these structures is more dense than suspended loads and wash loads. Traction is the rolling of heavy particles along these structures, while lighter particles bounce along them in the saltation transport process. Material from these structures is removed via dredging. In alluvial channels, banks and these structures are made of sediment. For 10 points, name these structures that form the bottom of rivers.
ANSWER: **bed**s [accept river**bed**s or stream**bed**s; accept **bank**s before read; accept **bed**forms; accept **bed**load; prompt on any bodies of water, such as oceans or lakes or rivers or channels or streams]
<Other Science>

Tiebreaker. D. W. Fiske and a thinker with this surname estimated construct validity with the multitrait-multimethod matrix. That methodologist with this surname, who names a law that indicators are corrupted over time, popularized ideas like "downward causation" and "evolutionary epistemology." In 1988, Bill Moyers interviewed another author with this surname for a PBS series in which he discussed troubadours and "animal powers" in segments like "Masks of Eternity." That faux-academic author with this surname, who inspired a screenwriting manual by Christopher Vogler, created a 17-stage cycle of motifs like "the road of trials" and "the call to adventure." For 10 points, Jungian archetypes influenced the "monomyth" proposed by an author with what surname, who outlined the "hero's journey" in *The Hero with a Thousand Faces*?
ANSWER: **Campbell** [accept Joseph **Campbell** or Joseph John **Campbell**; accept Donald T. **Campbell** or Donald Thomas **Campbell** or **Campbell**'s law] (The documentary series was *The Power of Myth*. Vogler's book is *The Writer's Journey: Mythic Structure for Writers*.)
<Social Science>

BONUSES

1. These functions can be constructed from the Eisenstein series for every even weight above 2. For 10 points each:
[10h] Name these functions that, in addition to being holomorphic on the upper-half plane and bounded on the positive imaginary axis, take inputs of the form (read slowly) "*a* tau plus *b*" all over "*c* tau plus *d*" (end read slowly) to outputs of the form (read slowly) "*c* tau plus *d*" all raised to the weight, all times *f* of tau.
ANSWER: **modular form**s [prompt on modular functions]
[10m] Curves described by this term were matched up to modular forms in Andrew Wiles's proof of Fermat's ("fer-mah's") Last Theorem. Carl Jacobi and Karl Weierstrass ("VAI-er-shtross") lend their names to two functions described by this term, which are defined to be meromorphic and doubly periodic.
ANSWER: **elliptic** [accept **elliptic** curves; accept **elliptic** functions; prompt on cubic curves]
[10e] Fermat's Last Theorem states that "*a* to the *n*" plus "*b* to the *n*" equals "*c* to the *n*" cannot be solved for n larger than this number. It is the smallest prime number.
ANSWER: **two**
<Other Science>

2. Milanese documents applied the pejorative term "Patarin" to both the Cathars and this church, whose *gost*, or guest, monastics followed the rule of Saint Basil. For 10 points each:
[10h] Name this schismatic church based in Mile, where Stanak assemblies elected Kotromanić ("koh-troh-MAH-neech") rulers before Stephen Tomašević ("toh-mah-SHEH-veech") was killed in 1463. This church disappeared after accusations of Bogomilism and 15th-century Islamization.
ANSWER: **Bosnian** Church [or Church of **Bosnia**; or Crkva **bosanska**; or **Christianus** or **Christiani** or **Krstjani**n]
[10e] In this modern-day country, followers of the Bosnian Church erected stećci tombstones in Nikšić ("neek-sheech"). After the fall of Zeta, Serbian Orthodox Prince-Bishops resisted Ottoman control of this country, whose name means "black mountain."
ANSWER: **Montenegro** [or **Crna Gora**; or **Mali i zi**; accept Prince-Bishopric of **Montenegro** or Mitropolstvo **Crnogorsko**]
[10m] The fourth sultan of this name exiled the Jewish messiah claimant Sabbatai Zevi ("SHAH-beh-tye ts'VEE") to Ulcinj, Montenegro in 1673. Another sultan with this name created Pristina's Fatih mosque and besieged Belgrade, which Janos Hunyadi ("YAH-nohsh HOON-yah-dee") defended.
ANSWER: **Mehmed** [accept **Mehmed** II or **Mehmed** the Conqueror or **Meḥmed**-i s̱ānī or Fatih Sultan **Mehmed**; accept **Mehmed** IV or **Meḥmed**-i rābi or **Mehmed** the Hunter or Avcı **Mehmed**; accept **Mehmet** in place of "Mehmed"]
<European History>

3. The serial vandalizer Hans-Joachim Bohlmann used this weapon to damage three Albrecht Dürer paintings in 1988. For 10 points each:
[10h] Identify this weapon that a monk used to destroy Vasily Vereshchangin's unconventional interpretations of *The Holy Family* and *The Resurrection*.
ANSWER: **acid** [accept sulfuric **acid**]
[10e] This artist's painting *Danaë* was nearly destroyed with acid in 1985. Multiple vandals have damaged his painting *The Night Watch*.
ANSWER: **Rembrandt** [or **Rembrandt** van Rijn; or Rembrandt Harmenszoon **van Rijn**]
[10m] In 1914, suffragette Mary Richardson attacked this painting with a meat cleaver. This Diego Velázquez painting depicts a nude woman with her back to the viewer looking into a mirror held by Cupid.
ANSWER: *Rokeby Venus* [or The *Toilet of Venus*; or *Venus at her Mirror*; or La *Venus del espejo*]
<Painting/Sculpture>

4. Answer the following about *Sixty-Six Books,* a project to write one play for every book of the Bible, for 10 points each.
[10h] A Brooklyn-accented God, played by Catherine Tate, tweets, "People ask me how I came to be a global brand" in *Godblog*, a retelling of Genesis by this author. This author's most famous novel, in which a Pentecostal girl discovers that she is attracted to women, has chapters named after books of the Bible.
ANSWER: Jeanette **Winterson** (The unnamed novel is *Oranges Are Not the Only Fruit*)
[10m] For the project, this author wrote *The Goat at Midnight* based on the Epistle of Jude. This Canadian author wrote about Geryon ("GER-ee-uhn") in her verse novel *Autobiography of Red*.
ANSWER: Anne **Carson**
[10e] Recent holders of this post who wrote for the project include Andrew Motion and Carol Ann Duffy. This honorary position appointed by the UK monarch has been held by John Masefield and Alfred, Lord Tennyson.
ANSWER: **Poet Laureate** of the United Kingdom
<British Literature>

5. A group of people was chased away from this place by an evil dog spirit after they failed to heed the warnings of Luunpa. For 10 points each:
[10h] Name this place, where Lungkata stole a bird from a pair of hunters. Kuniya's nephew was murdered at this place, causing her to strike the head of a Liru during an enraged dance.
ANSWER: **Uluru** ("OOH-loo-roo") [accept **Ayers Rock**]
[10e] The hunters used this phenomenon, stains from which remain visible on Uluru ("OOH-loo-roo") today, to take revenge for Lungkata's theft of their quarry. Prometheus stole this phenomenon for humanity.
ANSWER: bon**fire** [prompt on smoke]
[10m] The stories of Uluru ("OOH-loo-roo") told by the Anangu ("ah-NAHN-goo") people trace these paths, which navigate the origins of various landmarks. These pathways were taken across Australia by creator deities during the Dreamtime.
ANSWER: **songline**s [or **dreaming track**s]
<Mythology>

6. Until 1962, the face of a member of the Rana family appeared in a sun on this country's flag, which is flown around mirrors to create the image of a pagoda's roof. For 10 points each:
[10e] Name this country whose uniquely non-quadrilateral national flag hangs over its capital of Kathmandu.
ANSWER: **Nepal** [or Federal Democratic Republic of **Nepal** or Saṅghīya Loktāntrik Gaṇatantra **Nepāl**]
[10m] The Nepalese flag may have been inspired by the Hindu saffron flag, which is called the Jaratanka and flown by the Shiv Sena political party in this Indian state. Dabbawalas deliver lunch to this state's capital, which is home to the majority of Parsis.
ANSWER: **Maharashtra** ("muh-hah-RAHSH-truh") [prompt on MH; prompt on Maha]
[10h] An emirate based in this city had a non-quadrilateral flag depicting a yellow hand below a crescent moon. This majority-Tajik city contains the Lyab-i Hauz and Kalyan Minaret and names the Jewish diaspora in Central Asia.
ANSWER: **Bukhara**, Uzbekistan [or **Bokhara** or **Buxoro**; accept **Bukhara**n Jews or Yahudiyoni **Bukhoro**]
<Geography>

7. In *Africa's Discovery of Europe*, David Northrup notes that, from 1750 to 1807, Africans bought over 20 million of these "triangular trade" manufactured goods, which were typically Dutch on the "Slave Coast." For 10 points each:
[10m] Name these products that included "Danes" and Belgian-made "lazarinas" traded by the Ovimbundu. Wadai and Gonja slave raids drove cyclical demand for these items, which later included a type named for Hiram Maxim used in Matabeleland.
ANSWER: **gun**s [or **firearm**s; accept specific types like **rifle**s or machine **gun**s Maxim **gun**s or Angola **musket**s or **pistol**s or **flintlock**s; prompt on weapons or arms or equivalents] (Lazarinas were originally Portuguese, but Belgian imitators displaced the real thing. The British used the Maxim gun in the First Matabele War.)
[10e] Kenneth Dike argued that the Aro, unlike other Igbo ("EE-boh"), monopolized this river's gun trade. The Ogoni, Urhobo, and Itsekiri founded numerous kingdoms in the delta of this longest West African river, nicknamed the "Oil Rivers."
ANSWER: **Niger** ("nee-ZHAIR") River [accept **Niger** Delta] (The name "Oil Rivers" referred to palm oil before petroleum.)
[10h] This Niger Delta ethnic group's Kingdom of Opobo acculturated the Igbo ("EE-boh") palm oil baron King Jaja. Cheap muskets were named for this people's slave-trading coastal kingdoms of New Kalabari and Grand Bonny.
ANSWER: **Ijaw** people [or **Ijo** or **Izon**; accept **Ibani** or **Kirike** or **Okrika**]
<World History>

8. This man tells his wife Julie that to "know one another" "we'd have to crack open our skulls and drag each other's thoughts out by the tails." For 10 points each:
[10h] Name this man, whose *Case* titles a Stanislawa Przybyszewska ("p'shih-bih-SHEF-skah") play. This man calls his former ally "disgustingly virtuous" and argues that Christ was only a refined Epicurean in a play titled for his "death."
ANSWER: Georges **Danton** ("dahn-TAWN") [accept ***Danton**'s Death* or ***Danton**s Tod*; accept *The **Danton** Case*]
[10e] Georg Büchner's play *Danton's Death* depicts Danton and Robespierre clashing during this uprising, the setting of Anatole France's *The Gods are Athirst* and Baroness Emma Orczy's *The Scarlet Pimpernel.*
ANSWER: **French Revolution** [or **Révolution française**; accept more specific answers, such as the **Reign of Terror**; prompt on Revolution]
[10m] A title character of this Peter Weiss play directs a play about the other title character's assassination during the French Revolution. Coulmier supervises the second title character of this play in Charenton asylum.
ANSWER: ***Marat / Sade*** [or *The Persecution and Assassination of Jean-Paul **Marat** as Performed by the Inmates of the Asylum of Charenton Under the Direction of the Marquis de **Sade*** or *Die Verfolgung und Ermordung Jean Paul **Marat**s dargestellt durch die Schauspielgruppe des Hospizes zu Charenton unter Anleitung des Herrn de **Sade***]
<European Literature>

9. The first law of thermodynamics states that the change in internal energy equals the amount of this quantity supplied to the system minus the work done by the system. For 10 points each:
[10e] Identify this quantity, a form of energy that changes the temperature of a system. It is denoted capital Q.
ANSWER: **heat**
[10h] The infinitesimal dQ is this type of mathematical object because the heat added to a system is path dependent. This type of mathematical object is formed from a function whose mixed second partials are (emphasize) *not* equal.
ANSWER: **inexact differential** [accept **imperfect differential**; prompt on differential]
[10m] Unlike heat and work, infinitesimals of this type of function are exact differentials. Temperature, entropy, and pressure are examples of this type of function that only depends on the current system configuration.
ANSWER: **state** functions [or functions of **state**]
<Physics>

10. The *Lotus Sutra* uses a compound of this noun and the prefix "Eka" to describe the "one path" to which discipleship, solitary Buddhahood, and Bodhisattva-hood lead. For 10 points each:
[10e] Identify this Sanskrit and Pali word usually translated as "vehicle." A deprecated term classified the Theravāda tradition as "lesser" through the prefix "hīna" attached to this word, in contrast to the greater, or "mahā," tradition.
ANSWER: **yāna**s [accept Mahā**yāna**; accept Hīna**yāna**, accept Eka**yāna**]
[10h] This Mahāyāna school's fifth patriarch, Zōngmì, modified its tier list of yānas to put the Ekayāna teachings above its own. This school takes its name from a sutra that discusses "interpenetration" and is named for an object that represents the "crowning glory of perfect understanding."
ANSWER: **Huáyán** School [or **Avatamsaka** school; accept *__Flower Garland__ Sūtra*] (The sūtra is the *Avataṃsaka Sūtra*.)
[10m] The Navayāna, or "new vehicle," reinterpretation was created by this man, who prescribed 22 vows. This Engaged Buddhist led hundreds of thousands of Dalits in converting to Buddhism in Nagpur in 1956.
ANSWER: B.R. **Ambedkar** [or Bhimrao Ramji **Ambedkar**]
<Religion>

11. These models underlie protein databases like TIGRFAMs ("tiger-fams") and Pfam ("P-fam") since they are used by the HMMER ("hammer") suite of programs to build homology profiles for genome annotation. For 10 points each:
[10m] Name these models used by Julian Gough to build the Superfamily protein structure library from seed sequences. These stochastic models, which can model transition probabilities between ecosystem states, have "hidden" state paths.
ANSWER: hidden **Markov** models [or H**MM**s; accept **Markov** property or **Markov** assumption; accept **Markov** chains]
[10h] The metagenomics platform anvi'o uses hidden Markov models to scan for genes in a database generated from contigs assembled with these graphs by Megahit. A sequence's k-mers form the edges of these directed multigraphs named for a Dutch mathematician.
ANSWER: **de Bruijn** ("duh brown") graphs [accept **A-Bruijn** graphs; accept Nicolaas Govert **de Bruijn**]
[10e] The DRIMM-Synteny algorithm uses modified "A-Bruijn" graphs to detect conserved, collinear loci despite short tandem repeats; like RFLPs, such repeats are used in these tests of kinship with forensic applications.
ANSWER: **paternity** tests [accept **maternity** tests or **parentage** tests; prompt on DNA testing or genetic testing or similar]
<Biology>

12. The business psychologist Robert B. Cialdini formulated several compliance techniques for manipulating others in social situations in *Influence: The Psychology of Persuasion*. For 10 points each:
[10e] Cialdini studied salesmen of these items, who may use the low-ball technique. George Akerlof's "The Market for Lemons" examines how information asymmetry leads to adverse selection of these items at their used dealerships.
ANSWER: used **car**s [or **auto**mobiles; or motor **vehicle**s; accept specific kinds of car; accept used **car** salesmen or used **car** dealerships]
[10m] Cialdini argued that a "rule" based on this social norm is "overpowering." This norm names a type of altruism formulated by Robert Trivers, which led Axelrod & Hamilton to prove that tit-for-tat is an evolutionary stable strategy.
ANSWER: **reciprocity** [or word forms like **reciprocation** or **reciprocating**; accept **reciprocal** altruism; accept norm of **reciprocity** or **reciprocity** rule; prompt on obligation; prompt on cooperation or similar; prompt on give-and-take]
[10h] Cialdini built on foot-in-the-door to develop this opposite compliance method, which entails making a ridiculous initial request so the true goal sounds more reasonable. For example, if you want a pet iguana, you could first ask your mom for a Komodo dragon.
ANSWER: **door-in-the-face** [or **DITF**; or **rejection-then-moderation**]
<Social Science>

13. Answer the following about contributions made by Asian-Americans to the LGBT rights movement, for 10 points each.
[10e] The Daughters of Bilitis grew out of a social club organized by the Filipina immigrant Rosalie Bamberger as an alternative to these locations. The Stonewall riots began in one of these locations operated by the Mafia.
ANSWER: gay **bar**s [accept lesbian **bar**s; accept gay **tavern**s or lesbian **tavern**s; prompt on inns by asking "the Stonewall Inn was what type of location?"]
[10h] Kiyoshi Kuromiya founded a branch of the Gay Liberation Front in this city, where the Janus Society was founded. This city's mayor John Street was sued after forcing a Boy Scouts council to admit gay leaders.
ANSWER **Philadelphia**, Pennsylvania
[10m] The *Trikone* organization, founded for LGBT Desis, uses a modified form of this symbol as its logo. This symbol has been reclaimed by LGBT rights activists after initially being used by Nazi Germany to target gay men.
ANSWER: **pink triangle**s [accept upside-down **pink triangle**s or inverted **pink triangle**s; prompt on triangles]
<American History>

14. Harvard University Press now publishes the Loeb Classical Library that was first published by this company. For 10 points each:
[10h] Identify this British publisher whose educational wing printed Leon Comber's Writing in Asia Series and James Currey's Caribbean Writers Series. Both were modeled on this publisher's African Writers Series.
ANSWER: **Heinemann** [or William **Heinemann** Ltd.]
[10m] In 1994, this author was appointed as editorial advisor to the Heinemann African Writers Series. This Zanzibar-born author of *By the Sea* and *Paradise* won the 2021 Nobel Prize in Literature.
ANSWER: Abdulrazak **Gurnah**
[10e] The series published this author's short story collection *Some Monday for Sure* in 1976. This South African author is better known for novels such as *The Conservationist* and *July's People*.
ANSWER: Nadine **Gordimer**
<World Literature>

15. This composer narrated the classical portion of the "Carousel of American Music," as recorded in the National Recording Registry. For 10 points each:
[10h] Name this "Dean of American Music" whose opera *The King's Henchman* features a libretto by Edna St. Vincent Millay. This man names a music writing award given by ASCAP, but is perhaps best remembered as the Master of Ceremonies for Disney's *Fantasia*.
ANSWER: Deems **Taylor** [or Joseph Deems **Taylor**; accept ASCAP Deems **Taylor** Awards]
[10e] *Fantasia* was the first commercial film with this type of audio that is usually contrasted with mono sound. "Surround sound" systems further its use of two channels to mimic audio coming from multiple directions.
ANSWER: **stereo** sound [or **stereo**phonic sound]
[10m] An early public demonstration of stereo sound took place at this venue in 1940. This venue was the site of an acclaimed 1938 performance by Benny Goodman that included an iconic 12-minute performance of "Sing, Sing, Sing."
ANSWER: **Carnegie** Hall
<Other Fine Arts>

16. A ruler of this dynasty supposedly lounged in an alcohol-filled pool overlooked by tree branches made of meat. For 10 points each:
[10e] Name this dynasty whose last emperor committed suicide after a defeat to Wǔ of Zhōu ("joh") after the Battle of Mùyě ("moo-YEH"). This first Chinese dynasty supported by archaeological evidence followed the semi-legendary Xià ("sh'YAH") Dynasty.
ANSWER: **Shāng** ("shong") dynasty [or **Yīn** dynasty] (Zhòu of Shāng lounged in the alcohol-filled pool.)
[10m] Much of the archaeological evidence for the Shāng dynasty comes from the city of Yīnxū, where the oldest examples of the Chinese script were discovered on these objects.
ANSWER: **oracle bone**s [or **jiǎgǔ**; prompt on bones; prompt on ox scapulae; prompt on turtle shells or turtle plastrons]
[10h] After the Battle of Mùyě, Zhòu of Shāng committed suicide by burning himself in a pavillion named after this type of animal. Qín ("cheen") official Zhào Gāo ("jow gow") supposedly coined an idiom about pointing to this type of animal and calling it a horse.
ANSWER: **deer** [accept **Deer** Terrace Pavilion or **Lù**tái; accept "point to a **deer** and call it a horse" or "zhǐ **lù** wéi mǎ"]
<Other History>

17. In this play, the protagonist's mother asks if love will clothe her when the two are discussing a proposal. For 10 points each:
[10h] Name this play whose protagonist, Helen, accepts that proposal and has an affair with a man who tells her about committing murder in Mexico. Helen eventually murders her husband Mr. Jones to "be free" in this Sophie Treadwell play.
ANSWER: *Machinal*
[10m] In another play titled for machines, Elmer Rice's *The Adding Machine*, Mr. Zero undergoes one of these events attended by former dinner party guests. Henry Drummond participates in one of these events in a play by Jerome Lawrence and Robert E. Lee.
ANSWER: courtroom **trial** (Lawrence and Lee wrote *Inherit the Wind*.)
[10e] Machines were first labeled "robots" in this Czech author's play *R.U.R.*
ANSWER: Karel **Čapek** ("CHAH-peck")
<American Literature>

18. Peter Chaadayev wrote a series of works known by this title whose criticism of Russian literature and culture sparked the anti-Western "return to the soil" movement. For 10 points each:
[10h] Identify this title that is also the most common English translation of a collection that discusses the Quakers, Isaac Newton, and the trial of Charles I, which the author compares favorably to the outright murder of Henry III.
ANSWER: ***Philosophical Letters*** [or ***Lettres philosophiques***; accept ***Letters Concerning the English*** *Nation* or ***Letters on the English***; accept ***Letters on England***]
[10e] This thinker, who attacked Maupertuis ("moh-pair-TWEE") in his "Diatribe of Doctor Akakia," wrote the *Philosophical Letters.* He is better known for his fiction, such as *Zadig* and *Candide*.
ANSWER: **Voltaire** [or François-Marie **Arouet**]
[10m] The twelfth of Voltaire's *Philosophical Letters* praises this "father of experimental philosophy." This philosopher identified four "idols" of the cave, marketplace, theater, and tribe that cause errors in clear thinking in his major 1620 text.
ANSWER: Francis **Bacon** [or Francis Bacon, 1st Viscount **St Alban**; accept Lord **Verulam**] (The text is the *Novum Organum*.)
<Philosophy>

19. Answer the following about homologation reactions, for 10 points each.
[10m] Homologation reactions generally extend a carbon chain by adding one of these groups, which share their name with the simplest carbene ("car-bean"). When these functional groups are between two carbon atoms, they are called "bridges."
ANSWER: **methylene** group [or **methylene** bridges; prompt on CH_2]
[10e] Aryl ketones are converted to this functional group through the addition of potassium *tert*-butoxide ("turt-b'yoot-oxide") in the Seyferth homologation. Lindlar's catalyst partially hydrogenates this functional group's triple bond.
ANSWER: **alkyne**s ("AL-kines") [reject "alkanes" or "alkenes"]
[10h] This homologation reaction can produce beta-amino acids through a crucial intermediary step in which a diazoketone is rearranged to form a ketene, typically with a silver (I) ("one") oxide catalyst.
ANSWER: **Arndt–Eistert** homologation
<Chemistry>

20. The modern "squiggly line" form of one of these symbols may have evolved from an L-shaped "semiminima" predecessor found in Baroque-era manuscripts. For 10 points each:
[10e] Name these musical symbols that indicate that a musician should not play for a given amount of time. The "whole" one of these symbols is a rectangle that sits just below the fourth staff line.
ANSWER: musical **rest**s [accept quarter **rest** or whole **rest**]
[10h] Either four or six whole rests are equivalent to this rest used in early music, sometimes known as a quadruple whole rest. This rest is notated with a vertical black rectangle.
ANSWER: **longa** rest [or **longae** or **longe**; accept **long** rest]
[10m] Composers also call for silence in scores by using one of these features typically notated with a pair of oblique lines. This feature, which is named from the Latin for "cut," is placed between notes or measures, unlike a fermata ("fur-MAH-tuh").
ANSWER: **caesura** ("suh-ZHUR-uh") [or **caesuras** or **caesurae** or **cæsura** or **cesura**]
<Classical Music>

Extra. Answer the following about specialized mucosal immune cells in the gastrointestinal tract, for 10 points each.

[10e] The genus that causes this disease expresses invasin to target antigen-transporting M-cells in gut-associated lymphoid tissue. Prairie dogs circulate this disease that caused a 14th-century pandemic.

ANSWER: **plague** [or black **plague** or bubonic **plague** or pneumonic **plague** or septicemic **plague** or sylvatic **plague**; accept second **plague** pandemic or **Black Death** or Great **Pestilence** or **Great Mortality**; accept *Yersinia pestis* or *Y. pestis*; prompt on pneumonia or sepsis or septicemia]

[10m] Intestinal tuft cells express taste receptors that may allow them to detect these antigens. The Israeli snack Bamba prevents proteins like Ara h 2 from acting as these antigens that cause type I hypersensitivity and anaphylaxis.

ANSWER: **allergen**s [prompt on food allergy or peanut allergy or word forms like allergic; prompt on peanuts or legumes by asking "acting as what type of antigen?"] (Bamba prevents peanut allergy. Tuft cells also detect parasites like *Tritrichomonas*.)

[10h] These cells in the intestinal crypts secrete alpha-defensins that are necessary for colonization by segmented filamentous bacteria, and thus Th_{17} ("T-H-17") immunity. NOD2 ("nod-2") mutations can impair these cells and predispose patients to Crohn's disease.

ANSWER: **Paneth** cells [prompt on PCs]

<Biology>