

2020 Terrapin Open

Packet 14

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Tossups

1. **The G11778A mutation affects this specific enzyme complex in a disease in which bypassing this [emphasize] enzyme with idebenone may slow papillomacular bundle degeneration. Dat-1 channels permit a potent inhibitor of this complex called MPP-plus into dopaminergic neurons. The ND1, 4, and 6 subunits of this complex are defective in Leber’s hereditary optic neuropathy. The flavin mononucleotide prosthetic group of this complex accepts (*) two electrons and shuffles them through a rotenone-inhibited chain of 8 iron–sulfur clusters to ubiquinone, which then passes them to succinate dehydrogenase. It pumps 4 protons out of the matrix per NADH. For 10 points, name this complex that receives electrons from the Krebs cycle in the first step of the electron transport chain.**

ANSWER: complex **one** [or **NADH:ubiquinone oxidoreductase**; or **NADH dehydrogenase** until read; prompt on **dehydrogenase**; prompt on **oxidoreductase**; prompt on **electron transport chain** and **ETC** until read]

<JS, Biology>

2. **A journalist’s popularization of this activity to promote Flemish emancipation led to the term “Flandrien” (“FLON-dree-EN”) entering the Belgian lexicon to describe a skilled performer of this activity. Raymond Poulidor clashed with Jacques Anquetil (“onk-TEEL”) while employed by Mercier, an organization that promoted this activity in the mid-20th century. In 1942’s “Operation Spring Breeze,” police rounded up thousands of Jews in a building built primarily for this activity nicknamed the (*) “Vel’ d’Hiv” (“vel deev”). Events like the “Hell of the North” comprise this activity’s five famous “Monuments.” Eddy Merckx (“mairks”) is known for his accomplishments in this activity. A newspaper now called *L’Équipe* (“lay-KEEP”) founded an instance of this activity that makes use of a garment called the *maillot jaune* (“my-OH ZHOHN”), or yellow jersey. For 10 points, participants in what activity arrive at the Champs-Élysées (“SHAWN-zay-lee-ZAY”) in Paris after finishing the Tour de France?**

ANSWER: **cycling** [or **bicycling**; or **cyclisme**; or **faire du vélo**; or **riding a bike**; accept **bicycle racing** or **road cycling** or **road bicycle racing**; prompt on **racing** by asking “using what vehicles?”; do not accept or prompt on “motorbiking,” “road racing,” “driving,” or other answers indicating the use of a motor vehicle] (The journalist in the first line is Karel van Wijnendaele.)

<AP, Other Academic>

3. **John Dee and Edward Kelley formed a cult of magic based on a figure with this name, complete with an “Angelic language” in 16th-century England. A figure with this name is asked to interpret dreams and intercede to avoid God’s wrath in the Book of Giants. The Epistle of Jude describes how a man with this name prophesied (“PROFF-uh-sighed”) that the Lord will come with ten thousand saints to “execute judgment upon all.” A man with this name was the first Hermes in the line of Hermes Trismegistus. An Islamic figure who meets Muhammad in the fourth Heaven, (*) Idris, is identified with a biblical man of this name. Azazel is imprisoned by Raphael in a text attributed to a man with this name that was only fully preserved in Ge’ez (“GHEE-ezz”). Cain’s eldest son had this name, as did a son of Jared who lived to the age of 365 before “walking with God.” For 10 points, give this name of an ancestor of Noah and father of Methuselah.**

ANSWER: **Enoch**

<NH, Religion: Other>

4. A novel titled for this substance ends with the protagonist crying tears that turn into a beard after being raped by a circus boss. That novel titled for this substance alternatively ends as the protagonist gives a rare Egyptian coin called a *battene* to a fictionalized stand-in for Jorge Luis Borges. A story titled for this substance begins by discussing the geometric relation between points, lines, and planes, which the speaker states “is definitely not the best way to begin my tale.” After fathering seven daughters, Hajji Ahmed decides to (*) raise his eighth child as a boy regardless of their gender in a Tahar Ben Jelloun novel about a “child” of this substance. An 8-digit number and a drawing of an anchor appear in a book titled for this substance that the narrator hides in the National Library. That narrator trades his pension and a Wycliffe Bible to a man from the Orkney Islands in exchange for a book titled for this substance. For 10 points, what substance titles a book with infinitely many pages in a Jorge Luis Borges story?

ANSWER: sand [accept “The Book of Sand” or *The Sand Child*]

<CK, World/Other Literature>

5. Cellist Rudolf Leopold arranged a piece by this composer for its original string septet instrumentation, and it forms a chromatic bass line in its opening four chords: [read slowly] E minor, A-flat major in 2nd inversion, G minor 7 in 2nd inversion, A major in 1st inversion. The rhythm [read slowly] “8th rest, 8th note, then a rest-note-note triplet,” first heard in thirds by muted strings and then by timpani, represents a faltering heartbeat in a piece by this composer that premiered with his (*) *Burleske* for piano and orchestra in D minor. Karl Böhm and Paul Sacher (“ZAH-khuh”) commissioned a 23-string suite from this composer so he could go to a spa near Zürich. He wrote “In Memoriam” over a quotation from Eroica’s Funeral March in that piece, *Metamorphosen*. For 10 points, what late Romantic German composer of *Aus Italien* (“ouse ee-TAH-lee-in”) quoted his *Death and Transfiguration* in the tone poem *A Hero’s Life*?

ANSWER: Richard Strauss [prompt on Strauss]

<KS, Classical Music>

6. One man resigned from this post following a scandal in which he used a government limousine to travel to New York to buy 5,000 dollars worth of rare stamps. A holder of this office infamously stared at the breasts of the Egyptian ambassador’s wife and said “I have always wanted to see the pyramids.” After being fired, a former holder of this office wrote the tell-all *For the Record*, which revealed that the First Lady employed Joan Quigley as an astrologer. The holder of this office and the Secretary of the Treasury (*) swapped places at the beginning of Reagan’s second term; those men were Donald Regan and James Baker. With John Elrichman, a holder of this office formed the so-called Berlin Wall, restricting access to Richard Nixon. For 10 points, in 2019 Mick Mulvaney succeeded John Kelly in what position, the highest-ranking official in the White House?

ANSWER: White House Chief of Staff [or Assistant to the President and Chief of Staff]

<CK, American History>

7. The only observed uncharged omega baryon contains one of these particles. Electron–positron colliders planned in China and Russia are “factories” named for producing the tau lepton and this particle. Narrow resonances around 3100 and 3700 mega-electron-volts measured using the SPEAR positron–electron accelerating ring at SLAC correspond to different bound states including this particle. Those resonances are narrow because particles composed of this particle and its antiparticle are forbidden to decay by the (*) OZI rule. The GIM (“G-I-M”) mechanism that suppresses delta-S-equals-two transitions requires the existence of this particle. The “November Revolution” was sparked by the discovery of a bound state of this particle and its antiparticle, the J/psi (“jay-sigh”) meson. This third-most massive quark has a charge of plus two-thirds. For 10 points, name this quark that makes up the second generation with the strange quark.

ANSWER: charm quark [accept charmonium; accept tau-charm factory; prompt on c]

<GR, Physics>

8. A “new” version of this argument presented by Richard Gale and Alexander Pruss relies on the existence of a so-called “Big Conjunctive Contingent Fact.” A variant of this argument is defended in a 1979 book whose author imagines Tristram Shandy writing down every day of his life to challenge the idea of an “actual infinity,” and argues that this argument is supported by the Borde–Guth–Vilenkin (“bord gooth vil-EN-kin”) theorem. In a version of this argument, Samuel Clarke argued that the existence of an infinite regress of dependent (*) events are incompatible with the Principle of Sufficient Reason. Islamic *kalām* philosophy inspired that version of this argument defended by William Lane Craig. The first three of Thomas Aquinas’s Five Ways are versions of this argument, one of which proves the necessity of a “first cause.” For 10 points, name this *a posteriori* argument for God’s existence that claims God must exist for the universe to exist.

ANSWER: cosmological argument [prompt on argument for God’s existence]

<CK, Philosophy>

9. This author wrote a poem whose speaker states that he has reached these lands new “from an ultimate dim Thule (“THOO-lee”)” that is “Out of SPACE – Out of TIME.” The speaker tells this author that her “soul shall meet thee, and its Heaven forego” in a poem by Sarah Helen Whitman, who was briefly engaged to him, and refuted an unflattering biography of this author by Rufus Wilmot Griswold. He lamented that “a saintly soul floats on the Stygian river” in a poem that opens “Ah, broken is the golden bowl!” This author of (*) “Dream-Land” wrote a poem whose speaker addresses a woman with an “agate (“AGG-it”) lamp within [her] hand,” who he calls “Psyche, from the regions, which are Holy Land!” comparing her beauty to “Nicean barks of yore.” He wrote a poem whose speaker blames “angels, not half so happy in Heaven” for chilling and killing his lover, who rests in a “sepulchre” in a “kingdom by the sea.” For 10 points, name this poet of “Lenore,” “To Helen,” and “Annabel Lee.”

ANSWER: Edgar Allan Poe

<VS, American Literature>

10. Rulers from this dynasty patronized the historian Sharaf ad-Dīn Alī Yazdī, who chronicled the life of this non-Mughal dynasty’s founder in the *Zafernameh*. A ruler from this dynasty created the calligraphy that adorns the Goharshad mosque in Mashhad, which was commissioned by the wife of a ruler from this dynasty who repressed the Hurufis after a failed assassination attempt by Ahmed Lur. Multiple rulers from this dynasty patronized artists of Persian miniature, leading to the founding of a notable school in (*) Herat. An *iwān* covered in gold and blue mosaic tiles defines the façade of a *madrasa* founded by a ruler from this dynasty who compiled the *Zij-i Sultani* star catalog and built a namesake observatory. Bayqonsor, Shah Rukh Mirza, and Ulugh Beg were all members of this dynasty, whose founder sacked Delhi and was buried in the Gur-e Amir in Samarkand. For 10 points, name this Turco-Mongol dynasty that was founded by a ruler nicknamed for his bad leg.

ANSWER: Timurid Dynasty

<AE, World History>

11. Diagoon dwellings in this country exemplify the principles laid out in *Supports: An Alternative to Mass Housing*, a work from this country that started the “participation movement” in architecture. It’s not the UK, but two architects from this country helped start the Structuralist movement after breaking away from Team 10. IN10 Communications and this country’s Architectural Institute developed the first mobile Urban Augmented Reality program for multiple cities in this country. Many principles of an architectural style from this country were incorporated into the (*) Eames Case Study House No. 8. A house in this country contains an “invisible corner” and an upper level with sliding partitions for walls. An architect from this country developed a namesake “joint” that he used in his Red and Blue Chair and designed the Schröder House. For 10 points, name this country, the home of Gerrit Rietveld (“KHAIR-it REET-felt”) and the architectural movement De Stijl (“duh stale”).

ANSWER: The Netherlands [or Holland; or Dutch] (The diagoon dwellings are by Herman Hertzberger, and *Supports* is by N. John Habraken; the architects in the second line are Aldo van Eyck and Jacob “Jaap” Bakema.)

<KS, Other Arts: Architecture>

12. In 2002, Bert Vaux (“vox”) began collecting data on language variation in this country through the Harvard Dialect Survey. Donna Christian and Walt Wolfram wrote a seminal study of an inland dialect in this country whose speakers have gradually stopped *a*-prefixing verbs. In a dialect spoken mainly in this country’s south, speakers indicate highly tentative propositions using (*) double modals. A seminal study in this country found that, since non-rhotic pronunciations had less “prestige,” they were more common in low-end department stores. In this country, speakers of its majority language began raising and fronting vowels in the Northern Cities Shift. For 10 points, William Labov (“luh-BOHV”) did sociolinguistic fieldwork in what country home to speakers of AAVE and Appalachian English?

ANSWER: United States of America [or USA; or America]

<CK, Social Science: Linguistics>

13. The study of oscillatory modes in these structures, such as vertically incompressible corrugation modes, was pioneered by Nowak and Wagoner. A potential that is used to analyze stationary examples of these structures was developed by Paczyński (“puh-CHIN-skee”) and Wiita. Radiatively inefficient examples of these structures can be modeled using advection-dominated flow. Although much smaller than galaxies, imaginary values for the epicyclic frequency violate a critical value of the (*) Rayleigh discriminant in these structures, leading to onset of the magnetorotational instability. Models of these structures include the Shakura–Sunyaev model and ones that break the Eddington limit, “Polish doughnuts.” Extreme gravitational and frictional forces cause X-ray emission from the inner portions of these structures, which are bounded by the event horizon. These structures help power astrophysical jets emitted by AGNs. For 10 points, name these circular collections of materials that form around massive black holes or stars.

ANSWER: accretion disks [prompt on astrophysical disks; prompt on active galactic nuclei or AGNs until read; prompt on binary systems]

<KS, Other Science: Astronomy>

14. In a story by this author, after his ship changes its registry, a first-mate complains about the “ridiculous Noah’s Ark elephant” on Siam’s flag. A story by this author ends with the protagonist using his white hat floating in the water, which he had lent the title character, to steer out of some shallows. He wrote a story that ends with Captain MacWhirr equally dividing silver dollars scattered by a storm among the Chinese immigrants aboard the *Nan Shan*. Dr. Kennedy relates how the title character’s husband (*) died asking for water in his native language in a story by this author about the shipwrecked Eastern European émigré Yankoo Goorall. This author of “Amy Foster” and “Typhoon” wrote a story in which a ship captain rescues a swimmer who admits to having strangled a crewmate during a storm on his ship the *Sephora*. For 10 points, name this author who described the execution of Leggatt in his story “The Secret Sharer.”

ANSWER: Joseph Conrad

<CK, British Literature>

15. Along with troops from Barcelona and Norway, an archbishop from this city led the crusade that captured the Balearic Islands from Moorish control. The laws governing this city’s maritime commerce were codified in the *Breve Consulum Maris*, which served as a guide for the magistrates of this city. With Genoan assistance, troops from this city expelled the Saracens from Sardinia. This city would later war with Genoa, whose victory over this city at the Battle of (*) Meloria marked the end of its maritime dominance. Though this city was a staunch supporter of the Ghibellines, it was the location of a church council that elected Alexander V as pope in an attempt to end the Western Schism, which actually ended five years later at the Council of Constance. Despite the victory of this city’s forces at the Battle of Montecatini, Florence assumed the preeminent position in

Tuscany, occupying this city in 1406. For 10 points, name this Italian city that Florence surpassed as the commercial center of Tuscany, the birthplace of Galileo Galilei.

ANSWER: Pisa

<AE, European History>

16. A city government in this country built five public libraries in low income areas with adjoining green spaces for public use, called “library parks.” In this nation, 1200 people live in an area the size of two soccer fields on the island of Santa Cruz del Islote, the most densely populated island in the world. A city in this nation blocks off its major thoroughfares to cars on Sundays and holidays in a practice called *ciclovía*. Since the abandonment of a private zoo in this country, four (*) hippos released into the wild here have become an invasive species along its Magdalena River. An artist from this nation donated nearly two dozen bronze sculptures with large, bulbous features to a city where they are displayed in the Botero Plaza. This nation’s largest city is home to the University of the Andes. For 10 points, name this country where one can visit Medellín (“may-day-YEEN”) and Bogotá.

ANSWER: Colombia

<CK, Modern World>

17. In a painting depicting this decade, Will Longstaff showed some ghosts wandering around a gate at midnight. A series of *Variations* show an artist’s view of a garden through the window of a Swiss residence that he and Marianne von Werefkin (“veh-REF-kin”) shared during this decade. Four artists from a movement that ended during this decade were reunited by Galka Scheyer. Large, swirling red and black shapes oppose each other in an artist’s last work before he died during this decade, titled (*) *Fighting Forms*. A dog glances at faceless children in a painting from this decade titled *Farewell*. A nude model stands behind a cigarette-smoking man whose right arm is amputated in a “self-portrait” from this decade by Ernst Ludwig Kirchner. For 10 points, The Blue Rider movement disbanded in what decade, during which August Macke (“OW-goost MACK-uh”) and Franz Marc died in World War I?

ANSWER: 1910s (The artist in the third clue is Alexei Jawlensky.)

<VS, Painting/Sculpture>

18. In a scene from this play, a character describes how, while out on a balcony, she kept returning a man’s bows (“bao’s”) with curtsies until she became “so dizzy.” In a comic scene, this play’s central character keeps asking questions to himself that are answered by a notary, who he does not realize is listening. Public outrage over this play prompted its author to write a play in which Uranie and Dorante debate Lysidas and Climène, titled this play “criticized.” A character in this play is forced to recite a book of (*) maxims that forbid, among other things, wearing makeup and writing on paper. At the end of this play, Chrysalde’s brother-in-law, Enrique, is revealed to be the father of the central character’s ward whom he betroths to Oronte’s son. In this play, Horace doesn’t realize that the central character is also called Monsieur de la Souche. For 10 points, name this Molière play centering on Arnolphe, who tries to raise Agnès in innocence to avoid getting cuckolded.

ANSWER: *The School for Wives* [or *L’école des femmes*]

<CK, European Literature>

19. Dynamic measurement of this dimensionless quantity can make use of induced vibrations from equilibrium states in the VIECA (“VEE-kuh”) method. Ramé-Hart Instruments manufactures devices that measure this dimensionless quantity. Rafael Tadmor used measurements of line energy to calculate the difference between this dimensionless quantity’s advancing and receding forms, which is known as its namesake “hysteresis.” Changes in this quantity are characterized by the Cassie–Wenzel transition. KKS Lau et al. coated a carbon nanotube forest with PTFE in order to achieve very high values of this dimensionless quantity, which is characteristic of materials that can exhibit (*) “self-cleaning” in the lotus effect. When this

quantity is zero, the Wilhelmy equation equates force with the product of wetted perimeter and surface tension. This quantity is zero in complete wetting. Values of over 150 degrees for this quantity indicate that a material is ultrahydrophobic. For 10 points, name this angle that characterizes a surface's hydrophobicity.

ANSWER: **contact** angle [accept **wetting** angle until "wetted" is read, but prompt after; prompt on wettability; prompt on angle; prompt on degree of hydrophobicity or hydrophobicity until the end]

<KS, Chemistry>

20. **Recent excavations in this city by Sergio Gómez have failed to resolve disputes about how this site was governed, due to the lack of tombs discovered here versus at other sites in the same country. The excavations of a tunnel at this site led to the 2013 discovery of several yellow pyrite spheres, whose purpose has mystified archaeologists. Zelia Nuttall first gained fame for her discovery of several terracotta heads at this city, where several apartment-like complexes were discovered as part of a 1960s mapping project. Vast numbers of obsidian tools have been uncovered in this city. The (*) Wagner Murals were taken from this city, where theories proposing the worship of a "great goddess" have been based on murals discovered in this city's Tepantitla compound. Jorge Acosta rediscovered the Quetzalpapálotl palace, which lies near this city's Pyramid of the Moon. For 10 points, name this Mesoamerican city whose Pyramid of the Sun lies on the Avenue of the Dead.**

ANSWER: **Teotihuacan**

<AE, Archaeology>

Bonuses

1. British troops in this country managed to gain the allegiance of the West Side Boys, an armed militia who dressed as American gang members in the style of Tupac. For 10 points each:

[10] Name this country where the Revolutionary United Front, led by Foday Sankoh, fought the government in a civil war from 1991 to 2002. The Abidjan Peace Accords created a brief ceasefire in this country's civil war that only ended due to British intervention.

ANSWER: **Sierra Leone**

[10] This president of Sierra Leone negotiated the failed Abidjan Accords and the Lomé Peace Agreement with Sankoh. After being overthrown in 1997, British troops helped restore him to power in 2000, and he was later re-elected as president in 2002.

ANSWER: Ahmad Tejan **Kabbah**

[10] British intervention in the Sierra Leone Civil War under Operation Palliser was justified with an interventionist doctrine named for this Prime Minister of the UK, who was succeeded by Gordon Brown in 2007.

ANSWER: Tony **Blair**

<VS, British/Commonwealth History>

2. Henri Rousseau painted this man holding a scroll and a quill standing next to his mistress who wears a blue dress in the painting *The Muse Inspires the Poet*. For 10 points each:

[10] Name this man who is also the subject of a "Premonitory Portrait" by Giorgio de Chirico ("JOR-joh day KEE-ree-ko") in which he wears dark glasses.

ANSWER: Guillaume **Apollinaire**

[10] This French painter created many portraits of Apollinaire that showcase his proto-Cubist style. Apollinaire's writings on Cubism were partly inspired by a treatise that this man wrote with Albert Gleizes ("glez") called *Du "Cubisme"*.

ANSWER: Jean **Metzinger** ("met-san-ZHAY")

[10] Another painter who depicted Apollinaire was Robert Delaunay, who was a member of this offshoot movement of Cubism. Apollinaire named this art movement after a mythical Greek musician.

ANSWER: **Orphism** [or **simultanism**]

<AB, Painting/Sculpture>

3. This nation's finance minister posted an Instagram poll asking whether this nation should repatriate "children and mothers," or "children only" from the al-Hawl refugee camp. For 10 points each:

[10] Name this country whose current government faced a 2019 motion of no-confidence from the opposition Christian Democrats and National Coalition Party after it decided to repatriate the wives and children of ISIS fighters.

ANSWER: **Finland** [or **Suomi**]

[10] This Finnish PM from the Social Democratic Party survived that no-confidence vote. Currently the youngest head of state in the world, she leads a coalition government with four other female party heads.

ANSWER: Sanna **Marin**

[10] In a remark widely viewed as sexist, this journalist asked the five female Finnish leaders if they held meetings in the sauna. He hosts a show on CNN known as GPS, or Global Public Square.

ANSWER: Fareed **Zakaria**

<CK, Modern World>

4. Stevie Wonder released the song "Happy Birthday" and, along with this man's widow, submitted a petition with six million signatures to Congress in an effort to make this man's birthday a national holiday. For 10 points each:

[10] Name this civil rights leader whose birthday has been celebrated as a federal holiday on the third Monday in January since 1986.

ANSWER: Martin Luther **King**, Jr. [or **MLK**]

[10] This notoriously racist North Carolina senator and longtime chairman of the Senate Foreign Relations committee filibustered the effort to create MLK Day. Michael Jordan declared “Republicans buy sneakers, too” when he declined to support this man’s rival Harvey Gantt.

ANSWER: Jesse **Helms**, Jr.

[10] Trying to make her cry, Helms sang “Dixie” to this woman in a Senate elevator as she fought the renewal of the patent on the United Daughters of the Confederacy’s logo. With Barbara Mikulski, she wore pants on the Senate floor in defiance of an absurd Senate rule.

ANSWER: Carol **Moseley Braun**

<AE, American History>

5. In a novel set in this city, a character is thrown through a glass window by her father after secretly taking a middle school placement exam. For 10 points each:

[10] Name this city, the setting of a series of novels whose elderly protagonist reminisces about her childhood friend Lila, who has disappeared after contributing to an exposé of the Solara crime family.

ANSWER: **Naples** [or **Napoli**; prompt on **Neapolitan** Novels]

[10] This author’s breakout success *My Brilliant Friend* is the first entry in her Neapolitan Novels. In 2016, Claudio Gatti revealed that this pseudonymous author was actually the retired librarian Anita Raja.

ANSWER: Elena **Ferrante** [accept Anita **Raja** until read]

[10] The Neapolitan Novels end mysteriously with Elena receiving two of these objects in the mail that Elena and Lila lost as children after throwing them into the cellar of the town madman, Don Achille.

ANSWER: **dolls**

<AP, European Literature>

6. One of these two operations is often done through either “linking by rank” or “linking by height” when determining which root to keep while keeping height manageable. For 10 points each:

[10] Name these two operations. One determines the subset its argument is in, and the other moves the root of one argument to be the child of the other. A set named for them allows these two operations to be done in amortized nearly-constant time proportional to the inverse Ackermann function.

ANSWER: **union** AND **find** [accept **merge** in place of “union”; accept **union–find** sets]

[10] Union–find sets are used in this algorithm, which picks the minimum-weight edge connecting two disjoint components at each step. This algorithm runs in big-O of $E \log V$ time, unlike the similar Prim’s algorithm.

ANSWER: **Kruskal**’s minimum spanning tree algorithm

[10] Kruskal’s algorithm is this type of algorithm because it always picks the locally best option at each step.

ANSWER: **greedy** algorithms

<VS, Other Science: Computer Science>

7. An opera by this composer includes a “Drug Ballad,” where the title character’s son sings a long list of drugs, while laying in a body bag. For 10 points each:

[10] Name this Scottish composer who set *Oedipus Rex* in London’s East End in his opera *Greek*. The bankrupt New York City Opera’s last production was the premiere of his opera in which the title character rises from small-town waitress to Playboy Playmate, titled *Anna Nicole*.

ANSWER: Mark-Anthony **Turnage**

[10] Eva-Maria Westbroek, who premiered the title role of *Anna Nicole*, played Minnie in the Royal Opera’s 2019 production of this 1910 Italian opera set in California.

ANSWER: *The **Girl of the Golden West*** [or ***La fanciulla del West***]

[10] Puccini's *La fanciulla del West* inspired this composer's 2017 opera *Golden Girls of the West*. J. Robert Oppenheimer sings, "Batter my heart, three person'd God" in this minimalist composer's opera *Doctor Atomic*.
ANSWER: John **Adams** [or John Coolidge **Adams**; do not accept or prompt on "John Luther Adams"]
<CK, Other Arts: Opera>

8. Congolese author Fiston Mwanza Mujila wrote *Tram 83*, a novel in which Lucien and Requiem visit the title location of this type. For 10 points each:

[10] Name this type of location, such as one named "Credit Gone West" in the novel *Broken Glass*. In another work, some men try to pay for services at a building of this type that doubles as a brothel by trading in coltan.

ANSWER: **bars** [or equivalents] (The latter work is *Ruined* by Lynn Nottage.)

[10] This Congolese author wrote *Broken Glass*. This professor of French studies at UCLA wrote about Gregoire Nakobomayo's attempts to kill his girlfriend in *African Psycho*.

ANSWER: Alain **Mabanckou**

[10] In Mabanckou's "Letter to Jimmy," the narrator sees a homeless man on a Santa Monica beach who reminds him of one of this author's characters. The letter includes a segment on this man's preacher father, who partially inspired his novel *Go Tell it on the Mountain*.

ANSWER: James **Baldwin**

<VS, World/Other Literature>

9. A 1969 article analyzes this event through three contrasting "conceptual models": the rational policy model, the organizational process model, and the bureaucratic politics model. For 10 points each:

[10] Name this event analyzed in that paper by Graham T. Allison, which he expanded into his 1971 book *Essence of Decision*.

ANSWER: **Cuban Missile** Crisis

[10] Allison teaches at this university's Kennedy School of Government whose other faculty members include Samantha Power and Larry Summers.

ANSWER: **Harvard** University

[10] This Harvard political scientist used two-level game theory to model negotiations at the G7. He argued that increased social capital allowed Northern Italy to outperform Southern Italy in his book *Making Democracy Work*.

ANSWER: Robert **Putnam**

<CK, Social Science: Political Science>

10. Bonuses on chirality ("kye-RAL-ih-tee") are for amateurs. Answer the following about prochirality, for 10 points each.

[10] This term is used to describe groups in prochiral molecules whose replacement would give two different diastereomers. Unlike groups whose replacement would give two enantiomers, they have different chemical shifts in NMR spectra.

ANSWER: **diastereotopic**

[10] The two faces of a prochiral sp²-hybridized carbon are denoted by "Re" ("R-E") and this other two-letter term.

ANSWER: **Si**

[10] An example of the conversion of a prochiral compound into a chiral one is the reduction of an asymmetric carbonyl to give one of these compounds containing a hydroxyl group.

ANSWER: **alcohols**

<EM, Chemistry>

11. This author's 2014 Pulitzer Prize-winning play *All the Way* shifts between LBJ's attempts to pass the Civil Rights Act and MLK's organization of the Freedom Summer. For 10 points each:

[10] Name this playwright whose best-known work consists of nine one-act segments centering on the Rowen family, stretching from 1775 to 1975.

ANSWER: Robert **Schenkkan** (The play is *The Kentucky Cycle*.)

[10] MLK hosts a dinner that the title character attends in this author's play *Driving Miss Daisy*, the first installment in his "Atlanta Trilogy."

ANSWER: Alfred **Uhry**

[10] Katori Hall wrote a play set during the last day of Martin Luther King Jr.'s life, titled for this metaphorical place. MLK's final speech before his death describes looking out onto the promised land from this place.

ANSWER: the **mountaintop** [accept "**I've Been to the Mountaintop**"]

<VS, American Literature>

12. By around 1700, the Baroque suite gradually standardized as an instrumental genre whose canonical movements were these four dances in stylized forms no longer suitable for dancing. For 10 points each:

[10] Name these four dances in any order: a duple-meter moderate German dance with straight 16th notes; [pause] an energetic French or Italian dance, often in 3/2; [pause] a serious or elegant slow Spanish dance in 3/4; [pause] and a fast British or Irish dance in a compound meter like 3/8, often using imitative counterpoint. You have 10 seconds.

ANSWER: **allemande**, **courante** ("koo-RONT"), **sarabande**, **gigue** ("zheeg") [accept in any order; or **allemanda**, **corrente**, **sarabanda**, **giga**]

[10] Each of Bach's English Suites and Cello Suites begin with one of these improvisatory movements that introduce the common key of the main dances. Bach paired them with fugues in the *Well-Tempered Clavier*.

ANSWER: **prelude** [or **preludio**; or **praeludium**]

[10] This composer of 19 harpsichord suites wrote 19 preludes and fugues for organ in the stylus phantasticus. A young Bach walked to Lübeck to hear *Abendmusik* ("AH-bint-moo-zeek") concerts by this early Baroque Danish composer who crowned the North German organ school.

ANSWER: Dieterich **Buxtehude** ("BOOKS-tuh-HOO-duh")

<OL, Classical Music>

13. J. R. McNeill's book about these insects' "Empire" argued that the Spanish were largely able to hold onto their colonial empire because of them. For 10 points each:

[10] Name these insects that spread yellow fever, which devastated armies sent to besiege Caribbean forts.

ANSWER: **mosquitos**

[10] Vincent Brown analogized this island to a "reaper's garden" in large part because of its mosquito population. The Fante ("FAHN-tee") slave Tacky led a 1760 rebellion on this island.

ANSWER: **Jamaica**

[10] Timothy Winegard's *The Mosquito* covers the havoc mosquitos cause among people unsuccessfully trying to settle this modern-day country. Captain Henry Morgan returned to England after causing a brief stir by landing on this country's coast and destroying its largest city.

ANSWER: **Panama**

<JH, World History>

14. After flaying female sacrifices, men would wear the womens' skins during the festival Ochpaniztli ("ohch-pa-NEEST-lee"), which honors this goddess and the similar deity Tlazolteotl. For 10 points each:

[10] Name this aspect of Coatlicue ("ko-AHT-lee-kway") referred to as the mother of the Aztec deities and thus the grandmother of the Aztecs.

ANSWER: **Toci** ("TOH-see") [or **Tocih**]

[10] Toci is sometimes identified with Yohualteicatl ("yo-hwal-tee-see-tull") and Temazcalteci

("tem-ahs-call-TEH-see"), both of whom are goddesses of these places that were referred to by Aztecs as temazcals.

Plains Indians used similar structures to prepare vision questers by having them undergo the Inipi purification ceremony inside one.

ANSWER: sweat **baths** [or **bathhouses**; or **sweat lodges**; or **saunas**]

[10] The Inipi ceremony is one of the “seven sacred rites” performed by these Native American people. This group identifies the supernatural spirit imbued in objects by its concept of *wakan*.

ANSWER: **Lakota** [or **Teton** Sioux; prompt on **Sioux**]

<VS, Religion: Other>

15. This paper cites the case *Regina v. Finney*, in which a defendant who was accused of scalding an inmate in an insane asylum to death had successfully argued that he wasn't guilty of manslaughter. For 10 points each:

[10] Name this J. L. Austin paper that begins by distinguishing the title phenomenon from justifications. A footnote in it considers the difference between killing a donkey “by mistake” and “by accident.”

ANSWER: “A **Plea for Excuses**”

[10] J. L. Austin influenced H. L. A. Hart with whom he co-taught a seminar on responsibility. Hart's book *The Concept of the Law* defended this approach to jurisprudence that identifies legal facts with social facts.

ANSWER: legal **positivism** [or word forms]

[10] John Austin, who is not related to J. L. Austin, proposed this proto-legal positivist theory of the law. Hart's *The Concept of the Law* begins by criticizing it, arguing that it makes the law no different from a gunman's threats.

ANSWER: **command** theory

<CK, Philosophy>

16. Fluconazole and other azoles target 14-alpha-demethylase to inhibit synthesis of a molecule integral to this structure. For 10 points each:

[10] Name this structure. Amphotericin (“am-fuh-TAIR-uh-sin”) B creates lethal channels in its fungal version by binding and sequestering ergosterol, which, like cholesterol in mammals, normally maintains the fluidity of this structure.

ANSWER: cell **membrane** [or **phospholipid bilayer**; or plasma **membrane**]

[10] Amphotericin B and macrolides are synthesized by this family of modular enzyme complexes that facilitate Claisen condensations between ACP-bound malonyl-CoA and a namesake growing chain bound to KS.

ANSWER: **polyketide synthase** [or **PKS**]

[10] Polyketide synthases are also responsible for the macrolactone core of this antitumor immunosuppressant marketed as Sirolimus. With FK506 binding protein, it makes up a complex called mammalian target of this drug.

ANSWER: **rapamycin** [or **rapamune**; accept mammalian target of **rapamycin**]

<JS, Biology>

17. This book's author describes living in the abject filth of a boarding house run by the Brooker family and also describes “fillers” toiling in a coal mine in an oft-excerpted chapter. For 10 points each:

[10] Name this George Orwell book whose second part argues that the “prevalence cranks,” including “sandal wearers,” and “bearded fruit-juice drinkers,” drives working-class people away from socialism.

ANSWER: *The **Road to Wigan Pier***

[10] This editor, who commissioned Orwell's *The Road to Wigan Pier*, famously disavowed his comments about middle-class socialists in fear that they would alienate members of the Left Book Club.

ANSWER: Victor **Gollancz** (“guh-LANTS”)

[10] Orwell derided Gollancz as “part of the Communism-racket” when he refused to publish *Homage to Catalonia*, which documents Orwell's time fighting in this conflict with the POUM militia.

ANSWER: **Spanish Civil** War

<JH, British Literature>

18. To dispose of bodies, this organization used the services of Dr. Marcel Petiot, a serial killer who tricked those wishing to flee the country into being immunized before poisoning them. For 10 points each:

[10] Name this organization founded by the former police officer Pierre Bonny. Its members later comprised the *Gang des Tractions Avant*, a famous one of which was led by a former leader of this organization, Pierre Loutrel.

ANSWER: **Carlingue** (“car-LANG”) [or **French Gestapo** or **Active Group Hesse**]

[10] The French Gestapo was a collaborationist organization within this regime, which ruled France during World War II.

ANSWER: **Vichy** France

[10] Another collaborationist organization, *Milice* (“mee-LEECE”), was founded by this Prime Minister under Philippe Pétain. With British Foreign Secretary Samuel Hoare, this man signed an aborted pact agreeing to partition Ethiopia after Italy’s defeat at Adwa.

ANSWER: Pierre **Laval** [accept the Hoare–**Laval** Pact]

<EL, European History>

19. On the advice of the oracle, this man settles in Thessaly and marries Themisto after he encounters a pack of wolves devouring sheep. For 10 points each:

[10] Name this king of Boeotia (“BEE-oh-shuh”) who is driven mad by Hera for raising the infant Dionysus. After being visited by Tisiphone (“tih-SIFF-uh-nee”), he chases his wife Ino and son Melicertes into the ocean.

ANSWER: **Athamas**

[10] In his madness, Athamas mistakes this other son of his for a lion cub, seizes him from Ino, and smashes him against a rock.

ANSWER: **Learchus**

[10] Phrixus and Helle escape their stepmother Ino by riding a flying ram to Colchis, where Phrixus sacrifices it to produce this object. Jason is sent to obtain this object from Aeetes (“ee-EE-teez”) in the *Argonautica*.

ANSWER: the **Golden Fleece**

<JSH, Mythology>

20. The partition function for a system of n particles with this property is the single particle partition function to the n th power, without the usual factor of one over n -factorial. For 10 points each:

[10] Name this property. The wave function for quantum particles with this property can be a product of single particle wave functions rather than a symmetric or antisymmetric combination.

ANSWER: **distinguishability** [or **distinguishable** particles; do not accept or prompt on “indistinguishability” or “indistinguishable”]

[10] In the classical limit for a non interacting gas, the particles are effectively distinguishable, and their velocities follow this statistical distribution. The Fermi–Dirac and Bose–Einstein distributions approach this distribution in the high-temperature, low-density limit.

ANSWER: **Maxwell–Boltzmann** distribution [accept **Maxwell–Boltzmann** statistics; prompt on **Boltzmann** distribution]

[10] The Maxwell–Boltzmann distribution can be derived from this statistical formalism that keeps the energy, particle number, and volume constant over all microstates.

ANSWER: **microcanonical ensemble** [do not accept or prompt on “canonical ensemble” or “grand canonical ensemble”]

<GR, Physics>