

2020 Terrapin Open

Packet 8

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Tossups

1. **To fit catapults on his ships, a ruler from this dynasty built “super-galleys” called “sixteens,” which had two rows of oars, with each oar manned by eight rowers. That ruler from this dynasty destroyed his non-Persian foe’s navy at the Battle of Salamis, after which he conquered Cyprus and was crowned co-king along with his father. After securing control of Syria, this dynasty’s founder established the League of the Islanders to support his invasion of Greece. A ruler from this dynasty defended Greece against Brennus’s invasion and crushed a Spartan attempt to liberate Greece during the (*) Chremonidean War. A ruler from this dynasty used a massive siege tower known as the *Helepolis* during a siege of Rhodes; the failure of that siege led the Rhodians to erect the city’s eponymous Colossus. Aratus of Sicyon led the Achaean League in efforts opposing this dynasty, whose founder was killed at the Battle of Ipsus. For 10 points, name this dynasty founded by a one-eyed member of the *Diadochi* that succeeded the Antipatrids and ruled Macedonia until its conquest by Rome.**

ANSWER: **Antigonid** Dynasty

<AE, Ancient History>

2. **A club-wielding figure from a work depicting this person was likely reused in Dürer’s engraving *Knight, Death, and the Devil*. In a painting titled for this person, a document marked “protio” is held by a bird-shaped messenger on ice skates who wears a funnel hat. This enthroned figure is flanked by Jerome and Augustine and placed above the Twelve Apostles in a sculpted detail. After studying the composition of fish scales at a market, a 13-year-old (*) Michelangelo painted a colored version of an engraving by Martin Schongauer centered on this person. Guido Guersi (“GWEE-doh GWAIR-see”) was the likely model for this figure in a scene that depicts a crow-like bird with human arms brandishing a stick. A monastery named for this man primarily treated ergotism and commissioned the *Isenheim Altarpiece*. A giant city burns in the left background of a Hieronymus Bosch triptych titled for this man. For 10 points, name this saint whose “temptation” is an oft-depicted scene.**

ANSWER: Saint **Anthony** [accept Temptation of Saint **Anthony**]

<VS, Painting/Sculpture>

3. **After a character in this novel frees himself from his jail cell, he watches as the prisoner opposite him, in a cell with a linen-covered table and champagne, removes his penis and sticks it between the prison bars. A character in this novel is mortally wounded by policemen when she runs up to the Republican nominee for Vice President shouting, “President! President!” In this novel, a character ejaculates onto a naked woman after stumbling out of his hiding place in a closet, where he watched that woman receive a massage from (*) Emma Goldman. In this novel, Mother’s Younger Brother has a brief affair with Evelyn Nisbett, and the Jewish immigrant Tateth reinvents himself as the filmmaker Baron Ashkenazi. In this novel, Booker T. Washington tries to talk down another character who occupies J. P. Morgan’s library in retaliation for the destruction of his Model T by firemen. For 10 points, Coalhouse Walker Jr. appears in what novel by E. L. Doctorow?**

ANSWER: ***Ragtime***

<CK, American Literature>

4. **A popular skill on this apparatus is the Pak salto, which is often followed by the Shaposhnikova transition. A move popularized on this apparatus in 1972 was named for the Belarusian who pioneered it. This is the**

only apparatus on which women can perform a staldler circle, a skill that connects two handstands. Nadia Comăneci (“ko-muh-NETCH”) was awarded the first-ever perfect 10 score at the Olympics on this apparatus. Standing on this apparatus is now (*) illegal in international competition, as a result of which the Korbut flip is no longer performed. Gymnasts can wear devices called “grips” on their hands to improve their control on this apparatus. Conventionally, only women compete on this apparatus, although a related “parallel” apparatus is used by men. For 10 points, name this gymnastics apparatus consisting of two objects placed at different heights.

ANSWER: **uneven bars** [prompt on **bars**; do not accept or prompt on “uneven beams”]

<NC, Other Academic>

5. A KKK chapter in a university town in this state was the central case study in Nancy Maclean’s history *Behind the Mask of Chivalry*. After he saw the knuckles of a lynching victim for sale in a grocery store, W. E. B. Du Bois cancelled a meeting with a newspaper editor in this state; the lynching of that man, Sam Hose, prompted Ida B. Wells to write “Lynch Law in [this state].” The Venable Brothers owned a rock quarry in this state, where a (*) cross-burning marked the founding of an organization by William J. Simmons. As editors of this state’s largest newspaper, Henry W. Grady and Joel Chandler Harris popularized the idea of the “New South.” In this state, Tom Watson stoked an angry mob after its governor commuted the sentence of a Jewish man wrongly implicated in the murder of Mary Phagan. For 10 points, Leo Frank was lynched in what state where the Second Ku Klux Klan was founded on Stone Mountain?

ANSWER: **Georgia**

<JH, American History>

6. Two answers required. Tourists travel to the graves of soldiers from these two countries in a pilgrimage called “the passerger of light.” In 2019, *The Intercept* published over 700 pages of “cables” documenting how the Speaker of Parliament in one of these nations spied on behalf of the other under the identity “Source 134832.” The Sadrist Movement stresses greater unity between these two states, one of which has supported militias in the other known as the Popular Mobilization Forces. In January 2020, a (*) militia backed by one of these countries, the Kat’ib Hezbollah, ransacked the other’s US embassy. In response to a US drone strike that killed the leader of the Quds Force, one of these countries launched retaliatory rocket attacks against the other’s airbase at Ayn al-Asad. For 10 points, name these two majority-Shiite countries that were involved in an international incident after the January 2020 assassination of Qassem Soleimani.

ANSWER: **Iran** AND **Iraq**

<CK, Modern World>

7. Hill, Cass, and Davis’s original sensor for blood glucose relied on a redox couple mediated by this compound. The term “planar chirality” (“PLAY-nur kye-RAL-ih-tee”) was introduced to describe derivatives of this compound such as Ugi’s amine (“uh-MEEN”). The prefix “DM” can be used to denote a sterically hindered derivative of this compound that is trapped in a D5h “staggered” conformer. A family of phosphine ligands (“LIG-unds”) based on this compound is named for (*) Josi Puleo. This compound was accidentally prepared during an attempt to prepare fulvalene by oxidative dimerization. Woodward and Wilkinson deduced the correct “double cone” structure for this compound by noting that its rings underwent aromatic substitution reactions. For 10 points, name this metallocene with two cyclopentadienyl rings “sandwiching” an iron atom.

ANSWER: **ferrocene** [or **Fc**] (The ligands are Josiphos ligands.)

<EM, Chemistry>

8. Holders of this title, which means “great scholar,” are traditionally based in the city of Shigatse. After losing a fight to avoid taxation of his estates, the ninth holder of this title fled to China, where he died in exile.

The next holder of this title wrote the 70,000 Character Petition to protest material conditions in his homeland. In 1995, the Chinese government used a Golden Urn to choose a new holder of this title. As a result, there are (*) two claimants to this religious title, one of whom has been missing for the last 25 years. This title, which is held to belong to an incarnation of Amitābha Buddha, has one holder recognized by the Chinese government and another recognized by religious authorities outside China. Traditionally, the holder of this title confirms the reincarnation of the Dalai Lama. For 10 points, name this title that belongs to the second-most prominent figure in Tibetan Buddhism.

ANSWER: **Panchen Lama** [or **Panchen Erdini**]

<NC, Religion: Buddhism>

9. After this event, an author wrote a poem recounting how a “small voice spake” to him: “Thou art so full of misery, were it not better not to be?” This event, which inspired the poem “The Two Voices,” also inspired a poem whose speaker laments, “the stately ships go on, to their haven under the hill; but O for the touch of a vanish’d hand.” That poem responding to this event begins with the speaker commanding the sea to perform the title action “on thy cold grey stones.” A poem commemorating this event ends with an epilogue describing the marriage of its author’s sister. It inspired the poem (*) “Break, Break, Break” and a poem that begins by invoking, “Strong Son of God, immortal love.” In that poem commemorating this event, the speaker commands, “ring out, wild bells, and let him die,” and declares, “’tis better to have loved and lost, than never to have loved at all.” For 10 points, identify this event that Alfred Tennyson mourned in his poem *In Memoriam*.

ANSWER: Arthur Henry **Hallam’s death** [or **A.H.H.’s death**; or equivalents]

<CK, British Literature>

10. This enzyme complex is mutated in *cim3-1* cells, and it is directly inhibited by MG132. Beta 1, 2, and 3 i and PA28 replace subunits of this complex under IFN-gamma induction to facilitate production of MHC class-one ligands (“LIG-unds”). The catalytic core of this complex has PGPH-, trypsin-, and chymotrypsin-like activities and is inhibited by binding of the boron atom of the multiple myeloma drug bortezomib. Retro-translocated substrates are ultimately sent to this enzyme complex by ERAD. Mutations in parkin prevent effective conjugation of the protein (*) chain recognized by this complex. It has a 20S core and two 19S regulatory particles that form a 26S structure. Proteins destined for this complex get attached to glycine-76 of another protein by E2/E3 ligases. For 10 points, name this complex that degrades ubiquitinated proteins.

ANSWER: **proteasome** [accept **26S** proteasome or **20S** core particle or **19S** regulatory particle until read]

<JS, Biology>

11. This piece inspired two piano concertos by American composer Edward MacDowell, who pranked himself into writing them by blurting about his progress to his teacher Joachim Raff (“yo-AH-keem roff”). Alexander Siloti’s practicing this piece led Rachmaninoff to admire it and model his Opus 1 in F-sharp minor on it. This piece’s main theme starts on a minor triad whose top voice goes “E, [pause] F, [pause] short G, F, E.” Percy Grainger was revising this piece for the 1907 Leeds Festival at its composer’s home when he died. This piece cascades out of the motif of a falling (*) minor second then major third in a flourish of plummeting octaves, and its finale is based on the duple-time *halling* folk dance. This piece was inspired by Clara Schumann playing Robert Schumann’s piece in the same genre and key. It begins with a timpani roll crescendoing into a fortissimo A minor chord by the soloist. For 10 points, name this only concerto by the Norwegian composer of *Peer Gynt*.

ANSWER: **Piano Concerto** in A minor by Edvard **Grieg** [or **Grieg PC**] (The second clue is about Rachmaninoff’s Piano Concerto No. 1.)

<JD, Classical Music>

12. A bombing at a soccer stadium in this country killed a gangster and soccer team owner nicknamed Alik the Greek. The second president of this country ordered the abduction of Georgian-born journalist Georgiy

Gongadze; the release of a bodyguard’s recordings of discussions about Gongadze’s murder led to this country’s Cassette Scandal. A gold bread loaf and a floating restaurant in the shape of a pirate ship were found when protesters stormed the massive log-cabin clubhouse of a former President of this country. Occupying soldiers nicknamed (*) “little green men” were active during a crisis in this country that also saw fighting by its Berkut riot police. This country’s Party of Regions has been bankrolled by Rinat Akhmetov. After he suspended a deal with the EU, Viktor Yanukovich was targeted by this country’s Euromaidan protests. For 10 points, name this country that erupted in partisan fighting after Russia’s recent invasion of the Crimean Peninsula.

ANSWER: Ukraine
<EL, European History>

13. A story in this language centers on an author whose story-telling is interrupted first by a gun-wielding Moroccan pollster, then by a hatchet-wielding pizza delivery man. In a novel in this language, a comedian uses a chalkboard to tally the number of audience members who leave while he tells jokes about his abusive father. This language was used for a story in which the lazy Eddie, whose sickness always causes him to oversleep by 10 minutes, finally decides to run after a bus to get to a date. The author of “Suddenly, a Knock on the Door” and “The (*) Bus Driver who Wanted to be God” used this language for a story about a woman who becomes a fat, hairy man in her sleep, titled “Fatso.” This language was used for the novel *A Horse Walks into a Bar* and for a novel whose protagonist, Hannah, described her disintegrating marriage to the title geologist, *My Michael*. For 10 points, name this language used by writers Etgar Keret (“ET-gar KEH-ret”), David Grossman, and Amos Oz (“ah-MOSE OHZ”).

ANSWER: Hebrew [or Ivrit]
<CK, World/Other Literature>

14. Alongside his relational database model, Edgar Codd proposed a query language with this name, which predated SQL. In lambda calculus, renaming variables is referred to as a “conversion” described by this word. This variable is initially set to negative infinity and represents the minimum score of the maximizing player in a method of “pruning” a game tree named for it and the letter that follows it alphabetically. A channel named for this word indicates the (*) opacity of a graphic in an extension to the RGB model. This word begins the names of multiple programs created by Google DeepMind, including a chess AI program where it is followed by “Zero” and by “Go” in the name of a Go AI. Wolfram’s “Computational Knowledge Engine” is named for this letter. For 10 points, beta testing is sometimes preceded by a phase denoted by what letter?

ANSWER: alpha [accept alpha channel or alpha compositing or alpha conversion or alpha renaming or AlphaZero or AlphaGo or Wolfram Alpha or alpha testing; prompt on alpha-beta pruning]
<VS, Other Science: Computer Science>

15. Disagreements about the religion of a kingdom in this modern-day country between Joseph Halévy and Eduard Glaser led historians to propose the existence of a monotheistic religion called “Rahmanism.” According to legend, this modern-day country was the birthplace of Alayaman, who founded Gao’s Zuwa Dynasty. While visiting Mecca, a ruler from this modern-day country began the practice of covering the *ka’bah*. A ruler from this modern-day country named Charibael is described in the *Periplus of the Erythraean Sea*. The amount of arable land in this modern-day country dramatically decreased after the (*) breaching of the Great Dam at Ma’rib. After Dhū Nuwās attempted to forcibly convert its Christian population to Judaism, Kaleb of Axum invaded this place and conquered its Himyarite Kingdom. This modern-day country was the location of the Kingdom of Saba’, which is believed to be the biblical Sheba, and was a center for the frankincense and myrrh trade. For 10 points, name this country home to the port of Aden.

ANSWER: Yemen
<CK, World History>

16. A character in this book critiques the strength of another character's analogical arguments, comparing them to the inference that sap circulates in plants from the fact that blood circulates in humans. A character in this book declares: "we shall then see whether you go out at the door or the window, and whether you really doubt if your body has gravity," challenging whether another character is really a skeptic. A character in this book imagines a voice speaking from the sky and a living library to support his argument that, since the universe is "nothing but one great (*) machine," its author must be "somewhat similar to the mind of man." In response to that argument, another character in this book envisions a world created by spiders. Demea leaves abruptly following a discussion of the problem of evil in this book, which also includes Philo's critique of Cleanthes's argument from design. For 10 points, name this David Hume book about "natural theology."

ANSWER: Dialogues Concerning Natural Religion

<CK, Philosophy>

17. After the protagonist of a story by this author decides to shoot himself, his resolve is shaken when a little girl runs up to him on the street crying that her mother is dying. The narrator of that story by this author has a dream in which he's buried in a coffin, and flown through space to an exact replica of Earth whose utopian society he corrupts. In another story by this author, the narrator, sitting alone in a cemetery, eavesdrops on the conversations of the recently dead before silencing them with a sneeze just as they are about to confess all their shameful deeds. This author of (*) "Bobok" and "The Dream of a Ridiculous Man" wrote a novel whose narrator begs Simonov for six rubles to pay his tab after he ruins a dinner by imitating his former classmate's stutter. That novel's narrator spends months preparing to bump into a police officer who had humiliated him. For 10 points, name this author who wrote about a "sick" and "spiteful" man in *Notes from the Underground*.

ANSWER: Fyodor Dostoyevsky

<CK, European Literature>

18. A variant of this state that can arise in sequential-exchange economies is named for Radner. Models that empirically calculate quantities associated with this state from a social accounting matrix or input-output data are prefaced with the adjective "computable." Using the Shapley-Folkman lemma, this state can be approximated even when preferences are non-convex. The "anything goes" theorem shows that this state may not be unique even if prices are adjusted through (*) *tâtonnement* ("tah-tun-MAWN"). To derive this condition, excess demand is assumed to sum to zero, an assumption known as Walras's law. The Lucas critique motivated a class of "dynamic stochastic" models named for this state. Lionel Mackenzie, Kenneth Arrow, and Gérard Debreu proved its existence using fixed-point theorems. For 10 points, name this condition that arises when, in all markets, supply and demand are balanced.

ANSWER: general equilibrium [accept Walrasian equilibrium until "Walras" is read; accept Arrow-Debreu equilibrium until "Arrow" is read; prompt on equilibrium]

<CK, Social Science: Economics>

19. In an opera by this composer, a character descends from the skies in flaming chariot, singing the cavatina "Furie terribili!" In that opera by this composer, the title character, a role debuted by the castrato Senesino ("say-nay-ZEE-no"), describes stalking his prey in an aria where each word is echoed by horn, titled "Va tacito e nascosto" ("vah TAH-chee-toh ay noss-COAST-oh"). In that opera by this composer, Sesto swears revenge on his father's murder in the aria (*) "Svegliatevi nel core" ("zvell-YAH-tay-vee nell KOH-ray"). He wrote an opera in which the Saracen king Argante falls in love with the captive Almirena, who sings "Lascia ch'io pianga" ("LAH-shah KEE-oh p'YAHN-gah"). A man sings about the shade of a tree in an aria by this composer that, despite being marked *largo*, is known as his namesake "largo." That aria, "Ombra mai fu," appears in his opera *Serse* ("SEHR-say"). For 10 points, name this Anglo-German composer of the operas *Almira*, *Rinaldo*, and *Giulio Cesare* ("JOOL-yo CHEZ-ah-ray").

ANSWER: George Frideric Handel

<CK, Other Arts: Opera>

20. Alexei Kitaev proposed a fault-tolerant approach to quantum computing described by this term, where gates are carried out by braiding anyonic (“EN-ee-ON-ick”) quasiparticles. The Toric code is a stabilizer error-correcting code that can be used in that approach to quantum computing described by this term. Integrating the Berry curvature over the first Brillouin (“bree-WANN”) zone yields an integer that characterizes systems described by this term, the Chern number. According to the bulk–boundary correspondence, a (*) surface that separates regions with different values for an invariant described by this term will have conducting edge modes. A system described by this term was first realized in mercury telluride quantum wells and exhibits spin-momentum locking in its edge states. The winding number is an example of an invariant described by this term. For 10 points, give this term that describes insulators with conducting surface states.

ANSWER: **topological** [accept **topological** quantum computation, **topological** invariant, or **topological** insulators]

<GR, Physics>

Bonuses

1. The protagonist of a novel by this author takes his stepson to eat noodles at the Victory Restaurant to make up for excluding him from a family dinner. For 10 points each:

[10] Name this author who wrote about Xu Sanguan (“shoo san-gwan”), who sells his blood to support his family, in his novel *Chronicle of a Blood Merchant*.

ANSWER: **Yu** Hua

[10] *Chronicle of a Blood Merchant* is set during the rule of this leader. Yu Hua’s novels *Brothers* and *To Live* both include sections set during the Cultural Revolution, which began under this chairman.

ANSWER: **Mao** Zedong [or **Mao** Tse-tung or Chairman **Mao**]

[10] After leaving Red Fire Farm for Shanghai, Anchee Min trains to be an actress during the Mao regime in a memoir titled for this flower. The speaker of a poem asks a lover who is “sick and tired of me” to “tread gently” on these flowers.

ANSWER: **azaleas** [accept *Red Azalea*] (The poem is “Azalea” by Kim Sowol.)

<CM, World/Other Literature>

2. This paradox was first illustrated using a scenario involving two urns: one contains exactly 50 red balls and 50 yellow balls, while the other contains red and yellow balls in an unknown proportion. For 10 points each:

[10] Name this decision-theoretic paradox proposed by its namesake as a counterexample to Leonard Savage’s “sure thing principle.” This paradox is often taken as evidence that agents are ambiguity-averse.

ANSWER: **Ellsberg** paradox

[10] The Ellsberg paradox can be explained using this psychological theory of decision-making. It models agents as loss-averse with an S-shaped utility function that is steepest at a reference point.

ANSWER: **prospect** theory

[10] Prospect theory explains this effect in which agents prefer to keep an object they own rather than get an object of equivalent value that they do not own. Kahneman, Knetsch, and Thaler showed that this effect leads to violations of the Coase (“koce”) theorem in an experiment where participants did not freely trade coffee mugs.

ANSWER: **endowment** effect

<CK, Social Science>

3. John Pearson attributed the alcoholism of this object’s owner to the large amounts of brandy that his captors made him drink to numb his pain. For 10 points each:

[10] Describe this object that arrived with a letter from the ’Ndrangheta (“in-DRAHN-gay-tah”) demanding 3.2 million dollars and a warning that its owner would soon arrive in “little bits.”

ANSWER: John Paul **Getty III**’s **ear** [accept equivalents like the **grandson** of **J. Paul Getty**’s ear; prompt on **ear** by asking “whose ear?”]

[10] J. Paul Getty, John Paul Getty III’s grandfather, was a tycoon of this industry, whose other tycoons include Henry Flagler and John Rockefeller.

ANSWER: **oil** industry [or **petroleum**]

[10] J. Paul Getty amassed his fortune by purchasing a strip of land from this leader. This leader defeated the Hashemites to capture Mecca, and later put down the 1927 Ikhwan Revolt.

ANSWER: **ibn Saud** (“suh-OOD”) [or **Abdulaziz**; prompt on **Saud**]

<JL, American History>

4. This composer’s Fifth Symphony, first recorded by Robert Kajanus (“ka-ya-noose”), ends with an E-flat major cadence of 6 piercing tutti chords irregularly spaced out by long silences. For 10 points each:

[10] Name this composer whose Fifth Symphony's finale emerges as dovetailing horns play a majestic "swan hymn" in parallel thirds. Erik Tawaststjerna's ("ta-wahst-CHAIR-na's") vast biography recounts the decades-long doubt and drought this Finnish composer faced after his Fifth Symphony.

ANSWER: Jean **Sibelius** ("zhahn sih-BAY-lee-us")

[10] A slow, majestic fanfare of E-flat major chords in dotted rhythms introduces this late Mozart symphony that omits oboes. Along with the Great G minor and Jupiter symphonies, it was quickly written in the summer of 1788.

ANSWER: Symphony No. **39** by Mozart

[10] Four answers required in any order. Give the common nicknames of these E-flat major symphonies, pillars of the Romantic era: Beethoven's has a funeral march; [pause] Schumann's has 5 movements and was written last; [pause] Bruckner's has a hunt scherzo with a horn call; [pause] and Mahler's has a large chorus sing from *Faust*. You have 10 seconds.

ANSWER: **Eroica**, **Rhenish**, **Romantic**, Symphony of a **Thousand** [accept in any order; accept **Heroic** in place of "Eroica"; or **Heroische**, **Rheinisch**, **Romantische**, Symphonie der **Tausend**]

<OL, Classical Music>

5. The thinker who coined the name of this fallacy argued that if it were true, it would render the open-question "Is it true that X is good?" meaningless. For 10 points each:

[10] Name this fallacy that G. E. Moore attacked in *Principia Ethica*, arguing that goodness cannot be analyzed reductively in terms of properties like desirability or pleasantness.

ANSWER: **naturalistic** fallacy

[10] J. L. Mackie gave this argument against ethical naturalism, claiming that naturalism would require us to posit "qualities or relations of a strange sort, utterly different from anything else in the universe."

ANSWER: argument from **queerness**

[10] This Philippa Foot book presents a neo-Aristotelian defense of naturalism, arguing that since all organisms have the same "conceptual structure," the good is the same when evaluating a tree's roots or a human's character.

ANSWER: **Natural Goodness**

<CK, Philosophy>

6. Answer the following about general circulation modeling, for 10 points each.

[10] GCMs discretize the Earth into a grid to simulate movement of water, air, and heat in the atmosphere and oceans; since the grids used are relatively coarse, some important processes like this form of heat transfer must be included as parameters. This process is heat transfer by bulk fluid motion.

ANSWER: **convection** [accept **advection**]

[10] This property is used as a parameter in GCMs. This measure of reflectivity determines how much solar energy each cell absorbs and thus, the climate forcing.

ANSWER: **albedo**

[10] The primitive equation in general circulation models are based on the Navier ("nahv-YAY")–Stokes equations with this simplifying assumption, which directly relates the atmospheric height to pressure by setting the pressure differential equal to negative rho times the geopotential differential.

ANSWER: **hydrostatic** approximation [accept **hydrostatic** equation or **hydrostatic** equilibrium]

<GR, Other Science: Earth Science>

7. This author's best-known work is written using an orthography based on "etymy" ("ET-ims"), units of words that supposedly reveal their author's subconscious thoughts. For 10 points each:

[10] Name this author who wrote about an aging translator of Edgar Allan Poe in his novel *Bottom's Dream*.

ANSWER: Arno **Schmidt**

[10] This other German author's novel *The Pigeon* is peppered with allusions to Poe's "The Raven." He wrote about Jean-Baptiste Grenouille ("gruh-NOO-ee"), who murders young women for their scent, in his novel *Das Parfum*.

ANSWER: Patrick **Süskind**

[10] Süskind's *On Love and Death* discusses this author's obsession with a teenage waiter named Franzl. This author wrote a novel about Gustav von Aschenbach's infatuation with the teenage Polish boy Tadzio ("TAH-joe").

ANSWER: Thomas **Mann** (The novel is *Death in Venice*.)

<CK, European Literature>

8. This process is analogous to intermodulation in electronic systems. For 10 points each:

[10] Name this effect that occurs in materials with third-order nonlinearity, producing new waves at the sum and difference frequencies.

ANSWER: **four-wave mixing** [or **four-photon mixing**]

[10] Four-wave mixing can result in crosstalk in these objects when light at multiple frequencies propagates through them. These objects consist of core surrounded by a lower-index cladding.

ANSWER: **optical fibers** [or **fiber optics**; or **fiber optic** cables; prompt on optical **waveguides**]

[10] Four-wave mixing in optical fibers can be used for the parametric type of this process. Lasers are named for performing this process by stimulated emission.

ANSWER: optical **amplification** [accept optical parametric **amplification**; accept light **amplification**]

<GR, Physics>

9. This artist was the cinematographer of *Daughters of Dust*, a film directed by his ex-wife Julie Dash that was the first film directed by an African-American woman to be shown to general audiences. For 10 points each:

[10] Name this contemporary artist who overlaid found footage documenting achievements and challenges faced by African-Americans over Kanye's song *Ultralight Beam* in the work *Love is the Message, the Message is Death*.

ANSWER: Arthur **Jafa**

[10] This musician was inspired by the imagery of *Daughters of Dust* throughout music videos on her album *Lemonade*. Jafa worked on music videos for songs by this musician's sister Solange, such as *Don't Touch My Hair* and *Cranes in the Sky*.

ANSWER: **Beyoncé** [or Beyoncé **Knowles-Carter**]

[10] In 2019, Jafa won a Golden Lion for his film *The White Album* at an exhibition in this city. A 2019 film festival in this city honored *Joker* with its top prize.

ANSWER: **Venice** [or **Venezia**] (The events are the Venice Biennale and the Venice Film Festival.)

<VS, Other Arts: Film>

10. This man employed Michael X as part of his strategy of using black gangs to harass white tenants into leaving their apartments in areas near North Kensington in London. For 10 points each:

[10] Name this Polish émigré slumlord whose name was adapted into a word that Harold Wilson used to describe unscrupulous renting practices.

ANSWER: Peter **Rachman** [accept **Rachmanism**]

[10] One of Rachman's mistresses was Christine Keeler, who became the center of this scandal after she was revealed to have had an affair with its namesake minister, Harold Macmillan's Secretary of State for War.

ANSWER: **Profumo** affair

[10] Many of Rachman's tenants lived in this London neighborhood, where the "Teddy Boys" targeted members of the Afro-Caribbean immigrants from Windrush Generation in a 1958 race riot.

ANSWER: **Notting Hill**

<JH, British/Commonwealth History>

11. *Description acceptable*. A hadith found in *Ṣaḥīḥ Muslim* narrates how Muhammad likened one of these specific practices to picking up a piece of burning coal. For 10 points each:

[10] Name these two related practices. The mention of adornments in Sura 43, az-Zukhruf, is typically cited as the reason for forbidding these practices among men, as they are considered to be strictly feminine.

ANSWER: **wearing gold** AND **silk** [accept descriptions; prompt on wearing jewelry or wearing clothing or equivalents]

[10] By not wearing gold and silk, men are following the set of customs labeled by this term. This term encompasses the life practices of Muhammad, including eating with the right hand and growing a beard. This term also denotes prayers that are optional.

ANSWER: **sunnah**

[10] Gender roles in Islam are significant as they relate to the concept of modesty. This Arabic term, which can denote the general concept of modesty, is also used in both Arabic and English to refer to a headscarf worn by women that covers the hair but usually not the face.

ANSWER: **hijab**

<NH, Religion: Islam>

12. This figure's marriage to Bé Chuille ("bay KHILL-uh") causes a famine in Ireland that is only averted when he journeys to an island of apples to retrieve the "son of a sinless couple." For 10 points each:

[10] Name this high king of Ireland, the first to cause the Lia Fáil ("LEE-uh fall") to roar after it was split in half. This figure follows a horseman into thick fog, where he is served a meal by Lugh ("loo"), who tells him how long his reign will be.

ANSWER: **Conn** of the Hundred Battles

[10] Conn's wife Bé Chuille is banished after losing at this game, which is also played by Midir and Eochu ("OH-khoo") for a kiss in the *Tochmarc Étaíne* ("TOKH-mark AY-dyne"). King Arthur plays this board game against Owain ("OH-wine") in *The Dream of Rhonabwy*.

ANSWER: **fídhcell** ("FID-shell") [or **fícheall** ("FEE-hull"); or **gwyddbwyll** ("GWITH-bush")]

[10] This man splits the Lia Fáil in half when it fails to roar for this man's friend Lugaid Riab nDerg ("LOO-gud REE-ub NAR-ug"). After breaking his *geis* ("gesh") by eating dog meat, this hero is killed by a different Lugaid and dies standing.

ANSWER: **Cuchulainn** ("koo-HULL-in")

<JSH, Mythology>

13. This man's Nehr canal system used water from the Panchakki to supply a city he founded, Khadki, which was renamed Aurangabad when Aurangzeb invaded. For 10 points each:

[10] Name this freed slave who served as prime minister under Murtaza Nizam Shah II of the Ahmadnagar Sultanate. He is credited with introducing guerilla warfare to the Deccan region.

ANSWER: **Malik Ambar**

[10] Ambar repeatedly defeated this Mughal Emperor's efforts to conquer his Sultanate. After this emperor's death, Ambar supported the efforts of Asaf Khan and his third son against the machinations of his final wife, Nur Jahan.

ANSWER: **Jahangir**

[10] Ambar was originally from this country, which was ruled in the Middle Ages by the Christian Abyssinian Kingdom.

ANSWER: **Ethiopia**

<EL, World History>

14. In this play's opening scene, a character is asked to tell the story of Lady Klootz and the wedding cake, but instead distractedly gossips about Delia Verinder's brother, who can hear bats. For 10 points each:

[10] Name this play in which Edward is shocked to discover that his psychiatrist Dr. Henry Harcourt-Reilly is the same mysterious guest whom he had confided in about his wife's disappearance.

ANSWER: *The **Cocktail Party***

[10] T. S. Eliot's play *The Cocktail Party* parodied a genre of Victorian comedy of manners named for the fact that they were typically set in this type of place.

ANSWER: **drawing rooms** [accept **drawing room** plays]

[10] This author wrote a drawing-room comedy about the Bliss family titled *Hay Fever*. After a séance ("SAY-once"), Charles Condomine is haunted by the ghost of his annoying first wife in his play *Blithe Spirit*.

ANSWER: Noël **Coward**

<CK, British Literature>

15. In the presence of secondary amines ("uh-MEENS"), a reagent containing this compound, sodium carbonate, and acetaldehyde forms an iminium complex that hydrolyzes to form the blue Simon–Awe complex. For 10 points each:

[10] Name this powerful vasodilator that is injected intravenously to treat hypertension. As a reference compound, it is often used to calibrate Mössbauer spectrometers.

ANSWER: sodium **nitroprusside** [accept **Nitropress** or **Nipride** or **SNP**]

[10] It's not cyanide, but the breakdown of nitroprusside into this compound is responsible for vasodilation. The formula of this diatomic gas is NO.

ANSWER: **nitric oxide** [prompt on **NO**; do not accept or prompt on partial answers]

[10] They're not amino acids, but nitroprusside may be used to test urine strips for the presence of these compounds via the iodoform reaction in Rothera's test. Acetoacetate and beta-hydroxybutyrate are examples of these compounds that can indicate untreated type 1 diabetes.

ANSWER: **ketone bodies** [prompt on methyl **ketones**]

<KS, Chemistry>

16. Answer the following about removing the Sackler family's name from art museums, for 10 points each.

[10] This German artist's *Actual Reality OS* app "removes" the Sackler family's name from the Serpentine Galleries using AR. Her video art pieces include *Factory of the Sun* and *Is the Museum a Battlefield?*, which was inspired by the death of PKK fighter Andrea Wolf.

ANSWER: Hito **Steyerl** ("SHTYE-airl")

[10] This woman leads the anti-Sackler group P.A.I.N., which called for the Met's "Sackler Wing" to be renamed. She took many pictures in the Bowery ("BAO-er-ee") district and many pictures of drag queens, like *Misty and Jimmy Paulette in a Taxi*.

ANSWER: Nan **Goldin**

[10] Though for supposedly unrelated reasons, in 2019 this city's Freer-Sackler Gallery rebranded as the National Museum of Asian Art. Steyerl's *How Not to Be Seen* was shown in this city's Hirshhorn Museum in 2018.

ANSWER: Washington, **D.C.** [or **Washington**]

<VS, Painting/Sculpture>

17. This physician's treatise *Kitāb al-Manṣūrī* became a standard text for doctors and physicians in Medieval and Renaissance Europe after it was translated into Latin by Gerard of Cremona. For 10 points each:

[10] Name this Persian polymath whose time running hospitals in Rey and Baghdad led him to many medical discoveries. This physician's "A Treatise on the Small Pox and Measles" was the first to posit that the two diseases were different, and translations were popular among 17th-century supporters of inoculation and vaccination.

ANSWER: **Rhazes** ("RA-zeez") [or Abu Bakr Muhammad ibn Zakariya' **al-Razi**; or **Rasis**]

[10] Rhazes was one of the first physicians to criticize this Greco-Roman physician's views about anatomy and illness. This man expanded and popularized Hippocrates' theory of humors.

ANSWER: **Galen** [accept **Galenus** or **Galenos**]

[10] Gerard of Cremona also translated many works by Avicenna, including this monumental encyclopedia of medicine split into five parts, which contained influence from Chinese, Persian, Arabic, Greek, and Roman thinkers. This book was a standard medical textbook in Europe until the 18th century.

ANSWER: *The **Canon** of Medicine* [or *al-**Qānūn** fī al-**Tibb***]

<AE, European History>

18. This author described how, when “riding in old Baltimore, / Heart-filled, Head-filled with glee,” a man poked out his tongue and called him the N-word in his poem “Incident.” For 10 points each:

[10] Name this author who, in another poem, wonders “at this curious thing” that God would “make a poet black, and bid him sing!” in his poem “Yet Do I Marvel.”

ANSWER: Countée **Cullen** [or Countée LeRoy **Porter**]

[10] Cullen admonished Langston Hughes not to become a “racial artist” in a critical review of this collection. The speaker of this collection’s title poem describes hearing “a drowsy syncopated tune” on Lennox Avenue.

ANSWER: *The **Weary Blues***

[10] This literary editor for *The Crisis* helped launch the careers of both Cullen and Hughes. She wrote about Angela Murray, who passes as white, in her novel *Plum Bun*.

ANSWER: Jessie **Fauset** [or Jessie Redmon **Fauset**]

<CK, American Literature>

19. In a namesake mouse strain, this disorder is induced by a mutation in PRKDC. For 10 points each:

[10] Name this disorder characterized by crippled production of both B and T lymphocytes. A pitiful mouse strain used in xenograft studies features the murine version of this disorder and mutations in NOD and IL2R-gamma, the latter of which causes its X-linked human form.

ANSWER: **SCID** mutation [or **severe combined immunodeficiency** mutation; accept **SCID**/NOD mice or NOD **SCID** gamma mice; prompt on **NSG** mice; prompt on partial answers]

[10] Humanization of the NOD SCID gamma mouse immune system involves injections with pluripotent human hematopoietic (“hee-MAT-oh-poy-ET-ick”) cells of this type, which have more differentiation options than precursor cells.

ANSWER: **stem** cells [or human hematopoietic **stem** cells]

[10] The “earmouse,” which had an ear-shaped cartilage graft on its back, was made from a T-cell-deficient strain named for having this phenotype. FOXI3 (“fox-eye-3”) mutations cause this trait in dogs.

ANSWER: **hairless** [or **nude**; or **naked**; accept descriptions like **not having fur**]

<VS, Biology>

20. This executive was stranded in Israel after the owner of his chartered Gulfstream G650 learned that he had brought cannabis aboard the jet in violation of international drug trafficking laws. For 10 points each:

[10] Name this executive whose wife Rebekah founded an elementary school marketed for “young entrepreneurs.” He infamously sold the rights to a two-letter word to his own start-up for 5.9 million dollars in stock.

ANSWER: Adam **Neumann**

[10] Neumann founded this coworking startup. In 2019, Neumann resigned as its CEO after concerns about its corporate governance led its valuation to drop from 47 billion to 10 billion dollars.

ANSWER: **WeWork** [accept The **We Company**]

[10] Neumann repeatedly claimed to be working on this project. WeWork’s director of development bizarrely produced a video for this project that was shown at a White House conference in Bahrain.

ANSWER: Jared **Kushner’s peace** plan [accept answers mentioning Jared **Kushner** AND Middle Eastern **peace** or Israel–Palestine **peace**; prompt on “Donald Trump’s Middle East **peace** plan” by asking “who did Trump appoint to lead the effort?”]

<CK, Modern World>

