

FLopen 2020

Packet A: Prune Tracy history player retirement fund

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Tossups

1. **The tips of identical, cylindrical pores respond faster than surfaces deeper in the pores in the model of these components created by Robert de Levie. Hydrous ruthenium oxide nanoparticles and activated microwave-expanded graphite oxide are state-of-the-art materials for these components. Transparent films of indium tin oxide are used as these components in opto-electronic devices. Electron transfer reactions between these components and ions adsorbed onto them generate (*) pseudo-capacitance. The potential near these components falls off at first linearly and then exponentially in Stern's modification of the Gouy–Chapman model. One of these components coated with platinum black is used to define the standard reduction potential. For 10 points, redox reactions occur at what components of galvanic cells?**

ANSWER: **electrodes** [accept **anodes**; accept **cathodes**; prompt on metals; prompt on charged surfaces; prompt on electric double layer by asking “what component does the double layer form on?”]

<Chemistry, JS>

2. **In a story written in this language, a boy guarding his brother crushed by debris is told that he need not guard him at night, since the rats that would eat him are asleep. A traumatic dream featuring a xylophone made of bones haunts a soldier in a play written in this language, *The Man Outside*. A story in this language ends with its narrator whispering the word “milk” to a fireman. After seeing a chalkboard on which he wrote the title phrase in seven scripts, a soldier on a stretcher in that story in this language realizes he's missing three of his limbs. The story (*) “Stranger, Bear Word to the Spartans We...” was written in this language by the author of a novel in which a “lamb” punishes the “buffaloes” by orchestrating the destruction of St. Anthony's Abbey. For 10 points, what language's “rubble-literature” was championed by writers like the author of *Billiards at Half-Past Nine*, Heinrich Böll?**

ANSWER: **German** [or **Deutsch**] (The story in the first line is “Nachts schlafen die Ratten doch” by Wolfgang Borchert, the author of *The Man Outside*.)

<Other Literature, AP>

3. **A scrapped musical based on this man's life was written by Maury Yeston but was reworked into a concept album featuring Dionne Warwick and Plácido Domingo that spawned the hit “Till I Loved You” for Jennifer Rush. An art banker attempts to use the skull of this man to make a clone of him in an opera by Michael Nyman. A late-romantic piano suite named for this man includes the movements “The Compliments” and “The (*) Maiden and the Nightingale.” Stellan Skarsgård played this man in the final film directed by Miloš (“mi-LOSH”) Forman, which is named for his “ghosts.” Enrique Granados wrote a suite of pieces named for this man, who is the subject of a Menotti opera about this man's relationship with Maria Cayetana de Silva, whom he painted as *The Black Duchess*. For 10 points, name this painter of *Nude Maja* and *The Black Paintings*.**

ANSWER: Francisco José de **Goya** y Lucientes [accept **Facing Goya**; accept **Goya's Ghosts**; accept **Goyescas**]

<Other Academic, TH>

4. After being moved from a castle to this island, physical trainer Joseph Pilates (“puh-la-teez”) developed his namesake exercise method. For a time, Kurt Schwitters lived on this island in a Hutchinson Square location that became known as “the artist’s camp.” Geoff Duke set several world records on a racetrack on this island that passes through Ramsey. During Midsummer Court, people assemble in this island’s village of St. John’s to listen to new acts passed by the (*) Tynwald, this island’s parliament. A smaller island off this island’s southern coast is known as its “calf.” Hundreds have died in this island’s ultra-dangerous motorcycle race, the Tourist Trophy. A red background appears on the idiosyncratic flag of this island, which features a triskelion made up of three joined legs. Douglas is the capital of, for 10 points, what small island in the Irish Sea that names a breed of short tailed cats?

ANSWER: Isle of Man [or Ellan Vannin; accept Manx or Manx cats]
<Geography, TH>

5. Andy Clark’s so-called meta version of this problem asks whether or not this is a problem at all, while a Francis Kammerer paper asks why the illusionism answer to this problem is unacceptable. Uriah Kreigler has subdivided this problem into the sub-problems of qualitative immediacy and indescribability. A paper by Ned Block referencing a *Star Trek* episode imagines a creature that is functionally the same as humans but physically distinct in extending this problem to account for (*) multiple realizability. New mysterianism is the position that this problem cannot be solved by humans. Solving this problem is sometimes analogized to “bridging” the explanatory gap. David Chalmers named this problem, which asks why brain events are accompanied by phenomenal qualia. For 10 points, name this problem from the philosophy of mind contrasted with the “easy problem.”

ANSWER: the hard problem of consciousness [accept the harder problem of consciousness; prompt on qualia; prompt on the problem of consciousness; prompt on multiple realizability until mentioned]
<Philosophy, TH>

6. Jack Jenney plays a brief trombone solo on a song recorded by this bandleader that begins with trumpeter Billy Butterfield playing a rising chromatic C-sharp, D, D-sharp, before the whole band enters as he slides to E. Helen Forrest scored two number one hits with “They Say” and “All the Things You Are” while singing with this musician’s band. This bandleader’s odd choices of instrumentation include using only a string quartet and rhythm section in his “Interlude in B-flat” and using a (*) harpsichord instead of a piano for “Summit Ridge Drive” which he recorded with his Gramercy Five. This musician, who was married eight times, had his biggest hit in 1938 with a version of a Cole Porter song inspired by a West Indian dance. For 10 points, name this swing-era big band clarinetist and rival of Benny Goodman who had hits with “Stardust” and “Begin the Beguine” (“bay-GEEN”).

ANSWER: Artie Shaw [accept Arthur Jacob Arshawsky; accept Art Shaw]
<Other Arts: Auditory, TH>

7. In 17th-century England, this profession was held by women such as the “Widow Wyncke” (“wink”) and Susan Reeve Lyon, who was prosecuted for aiding the Dutchman Gerard Boate. After many prosecutions for inadequate politeness by a rival organization, London’s “Worshipful Society” of this profession finally gained legitimacy in 1703’s *Rose Case*. In 1595, Anthony Chute accused people in this profession of selling low-quality “mingle mangle” due to their tendency to hoard tobacco imports. An outdated (*) measurement system named for this profession divides a twelve-ounce pound into drams, scruples, and grains. Liquid-filled bulbs of glass, or “show globes,” were a historical symbol of this profession, whose members used a mortar and pestle to form salves, poultices, and other remedies. For 10 points, members of what antiquated profession prepared and sold forms of medicine?

ANSWER: **apothecaries** [accept word forms; prompt on pharmacists; prompt on druggists; prompt on chemists; prompt on physicians or medics, as apothecaries occasionally provided medical services]

<Post-500 European History, TM>

8. The Charter 97 declaration denounced this leader, who has promoted the China-funded Big Stone industrial park in his capital. In February 2020, this leader threatened to siphon oil from the “Friendship” pipeline, which diverges into two tracts in the south of his country. At a summit, this leader was handed historic maps to influence his policies concerning the Suwalki (“soo-VOW-kee”) Corridor, which has its southeastern terminus in his country. In 2009, a larger ally banned (*) dairy imported from this leader’s country in the so-called “Milk War.” When asked about COVID-19 infection rates while dressed in ice hockey gear, this leader responded “there is no virus here” and has recommended hand washing with vodka. Security services loyal to this leader have attacked protestors advocating for exiled opposition leader Sviatlana Tsikhanouskaya (“svet-LAH-nuh tee-kuh-NOV-sky-uh”). For 10 points, name this current embattled president of Belarus.

ANSWER: Alexander **Lukashenko** [or Alexander Grigoryevich **Lukashenko**; or Alyaksandr Ryhorovich **Lukashenka**]

<Current Events, TH>

9. In a story by this author, while dancing with a Harvard French professor, a girl asks about “dangerous Dan McGrew” and admits she sees all people as either canine or feline. In another story by this author, a woman retrieves a morbid letter from the title object, which then appears to grow to massive size trapping the world under its canopy. That title (*) Art Nouveau object of a story by this author causes a series of misfortunes for Evelyn Piper by revealing her affair and causing her daughter to lose her hand. In a story by this author, Sally Carrol resolves to return home to the south after being abandoned by her northern beau Harry and nearly freezing to death in the title structure. For 10 points, name this author who included the stories “The Cut-Glass Bowl” and “The Ice Palace” in his collection *Flappers and Philosophers*, which he published the same year as *This Side of Paradise*.

ANSWER: F. Scott **Fitzgerald** [accept Francis Scott Key **Fitzgerald**]

<Short Fiction, TH>

10. A scholar working in this country advocated updating rather than ignoring *halakha* in books like *Judaism as a Civilization* and *New Haggadah*. Alfred Moses and Morris Lichtenstein founded a movement in this country that syncretizes New Thought conceptions of God as celestial energy with Hebrew scripture. The influential B'nai Yeshurun congregation in this country promoted the Zionist cause with their publication *Israelite*. In this country, Avi Weiss founded a movement that controversially ordains (*) women; that movement is Open Orthodoxy. Mordecai Kaplan founded Reconstructionist Judaism while living in this country. In the 1820s the center of the Reform Movement moved from Germany to this country. The largest city in this country is home to Yeshiva University. For 10 points, name this Western Hemisphere country that contains over half of the world's Jews.

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

<Religion, TH>

11. Enabling secondary expansion at the end of the read-in phase of this tool is useful when constructing variable names from automatic variables. In the Autotools suite, the configure script uses a file with a ".in" ("dot-in") extension to generate this tool's files. The .PHONY ("dot-phony") keyword tells this tool that certain names do not refer to actual files. As in SQL, this tool's files use the percent sign to enable wildcard matching. The DESTDIR ("dest-dir") variable allows this tool to perform staged installs. Special targets used by this tool include check, which runs tests, and (*) clean, which removes executables and object files. The compiler and its flags are specified to this tool using the CC and CFLAGS ("C-flags") variables, respectively. Recipes for how to compile each target are specified in this tool's namesake files. For 10 points, name this tool used to build software on Unix systems.

ANSWER: make [accept makefiles; accept GNU make; accept BSD make; accept nmake; accept automake; accept CMake]

<Other Science: Computer Science, JS>

12. A painter from this family painted Ottavio Strada receiving a cornucopia and showed herself holding some sheet music while wearing a white dress in a self portrait. Another member of this family painted hundreds of tightly packed soldiers aboard ships in the *Battle of Salvo* and showed two cherubim looking on in his *Tancred Baptizing Clorinda*. The Scuola Grande di San Rocco contains many paintings by artists from this family, including a ceiling painting of *The (*) Miracle of the Bronze Serpent*. A painter from this family depicted an upside down Saint Mark intervening to save a man from execution. That artist from this family showed the infant Hercules against the star-spewing breast of Juno in *The Origin of the Milky Way*. For 10 points, name this family of Venetian Mannerist painters whose patriarch painted *The Miracle of the Slave* and a diagonal *Last Supper*.

ANSWER: Tintoretto [or Jacopo Robusti; accept Domenico Robusti or Domenico Tintoretto; accept Marietta Robusti; accept Tintoretta]

<Painting/Sculpture, TH>

13. A bizarre passage of a novel by this author makes a series of prophecies of the popularity of authors in the future, such as “Paul Éluard shall appeal to the masses in the year 2101.” In a novel by this author, a paranoid professor makes a series of geometric drawings featuring the names of philosophers at vertices and hangs a copy of Euclid’s *Elements* from a clothes line. In a novel by this author, the narrator hides in a bathroom stall for thirteen days during a fictionalization of the (*) Tlatelolco (“t’LAH-tel-OHL-coh”) Massacre. This author wrote about the investigative journalist Oscar Fate in a five part novel whose notorious fourth section details the aftermath of hundreds of murders in gory detail. The reclusive author Archimboldi is discovered to actually be Hans Reiter in a novel by, for 10 points, what author of *Amulet* who wrote about the investigation of the murders of women in Santa Teresa in 2666?

ANSWER: Roberto **Bolaño** [or Roberto **Bolaño** Ávalos]

<Long Fiction, WG>

14. In the 1950s, Lee Mortimer often listed the name and locations of these places in his *Daily Mirror* column. After being arrested at one of these places, Diego Viñales impaled himself at a police station while trying to escape. Some 750 of these places were included in an Address Book published by Bob Damron. Historian David Carter documented how the lights in these places were often changed from blue to white to signal danger. One of these places controlled by (*) mobster “Fat Tony” Lauria technically operated as a membership organization to skirt laws making it illegal to serve its clientele. Marsha P. Johnson was in the vanguard at an incident outside one of these locations. *The Village Voice* was the only paper to provide in-depth coverage on a raid on one of these places commemorated a year later in the first Pride March. For 10 points, name these businesses that include the Stonewall Inn.

ANSWER: **gay bar** [or **gay club**; or **gay**-friendly **restaurant**; or **lesbian** bar; accept any answer involving a **bar**, **nightclub**, **inn**, **restaurant** or establishment catering to the **LGBTQIA+** community; prompt on **bars** or night **clubs**]

<US History, MB>

15. Pyrroline tautomerization between delta-2 and delta-1 isoforms is thought to cause the biphasic nature of the hydrolysis of some of these molecules derived from thi-ena-mycin. These molecules are broken down through the attack of a zinc-stabilized hydroxide by metallo-enzymes such as VIM and IMP. Enzymes in classes A, C, and D acylate these molecules in a manner similar to serine proteases. The aforementioned metallo-enzymes that act on these molecules are in Class B of the (*) Ambler classification. Carbapenems and penems are forms of these molecules that differ in the structure of their second ring. Flucloxacillin, sold under the brand name Flopen, is one of these drugs that include cephalosporins. For 10 points, what drugs that contain four membered cyclic amides include methicillin and penicillin?

ANSWER: **beta-lactams** [accept **cephalosporins**; accept **monobactams**; accept **penicillins** before “penicillin”; accept **penams**; accept **carbapenems** before “carbapenems”; prompt on **antibiotics**; prompt on **drugs**]

<Biology, JS>

16. An ancient geographer from this city described all known lands clockwise from Gibraltar in his *Periodos ges*. A genre of ancient erotic tale named for this city was the main literary output of its resident Aristides. The Pergamon Museum holds the propylon that once stood in front of the market of this city. The historian Hecataeus was from this city, as was the first Greek to lay out broad avenues orthogonally intersected by side streets; that (*) “father of urban planning” from this city is Hippodamus. Socrates claimed a woman born in this non-Athens city was the true writer of a funeral oration given during the Peloponnesian War. A member of the Seven Sages from this city made bank by using astronomical knowledge to capitalize on an olive oil investment and passed down his philosophical teachings to Anaximander. For 10 points, name this Ionian city-state, the birthplace of Aspasia and Thales.

ANSWER: Miletus

<Ancient History, LM>

17. A paper by Barkai et al. uses samples from the Qesem (“cah-sim”) site to posit that the adoption of this technology was an essential adaptation for post-Acheulian settlers in the Levant. A Richard Wrangham book titled for this technology suggests that its adoption led to a “primitive protection racket” within pair bonding. Silcrete stone samples from the Klipdrift Shelter site suggest that this technology was used by the Stillbay culture. The Schöningen Spears are import artifacts used in tracing the development of this technology for (*) improving tool design. The earliest evidence of this technology comes from the Wonderwerk Cave site in South Africa and suggests it was first used about one million years ago. The hand drill and bow drill were widely-used tools used for producing this thing. For 10 points, the use of what prehistoric technology is attested by flint and charred animal remains?

ANSWER: making fire [accept cooking food; accept controlled use of fire; accept fire-hardening; accept heating or heat treatment; accept burning; prompt on material or wood hardening; reject “metal” or “metalworking” or any similar answers]

<Social Science: Anthropology/Sociology, TH>

18. An inhomogeneous Helmholtz equation is solved to calculate quantities near these things in Durbin’s elliptic relaxation technique, and his v2f model incorporates anisotropies near them without using their namesake functions. Van Driest damping functions are required to correctly simulate near these things. Some attempts to model the effects of these things increase the grid line resolution normal to them beyond that normally required for direct numerical simulation. Unlike the k-epsilon model, the k-omega model is accurate near these things. In a region close to these things, the (*) von Kármán constant appears in the log-law for the velocity profile. Viscous fluids have zero velocity relative to one of these things when assuming the no-slip condition. For 10 points, viscous forces dominate over inertial forces in a thin region near what surfaces surrounding a fluid?

ANSWER: walls [accept fluid boundary or fluid boundaries; accept boundary layer; accept wall effects; accept wall functions; prompt on solid by asking “what is the solid’s relation to the fluid?”]

<Physics, JS>

19. Paul Muldoon's translation of this poem from his collection *Maggot* is prefaced with a quote from BBC News noting how plastic cigarette lighters resemble "the staple food of squid." This poem, which was inspired by an incident observed on a 1841 trip to Réunion ("RAY-oon-YOHN"), describes the title figure "On high companionable pinion where / Their vessel glides upon the bitter deeps." In Richard Wilbur's translation, a sailor in this poem "hobbling, (*) mocks [the] trammelled pace" of the title creature, while another "pokes a pipestem into his beak." The last stanza of this poem notes that the poet is like the title bird, a "prince of the clouds" who can't walk because of the "weight of his wings." For 10 points, name this second poem in *Les Fleurs du mal*, a Charles Baudelaire poem named for a large-winged sea bird.

ANSWER: "The Albatross" [or "L' Albatros"]

<Poetry, TH>

20. The fact that this leader's personal documents were destroyed after his death may indicate that he won his case against Betancur for the Marquisate ("MAR-kwih-zit") of Oropesa. In an attempt to play both sides, Juan Manuel de Moscoso y Peralta delayed this leader's excommunication. Frustrated that four horses had failed to tear this leader apart, José Antonio de Areche ordered his beheading, after which Katari and this leader's cousin Diego took up his mantle. Shortly after hanging Antonio de Arriaga, this leader and his forces burned their opponents alive inside a church during the Battle of (*) Sangarará. The extortionate repartimiento de mercancías inspired this leader's 1780 rebellion, which was based out of Vilcabamba. An Indigenous rebellion in Peru was led by, for 10 points, what leader who claimed to descend from the last Incan monarch?

ANSWER: Túpac Amaru II [or José Gabriel Condorcanqui Noguera; prompt on Túpac; prompt on Amaru]

<Post-500 World History, GP>

21. Deutsche Grammophone-winner Mirga Gražinytė-Tyla ("MEER-guh grah-zhi-NEE-tay TEE-lah") conducted a 2020 live recording of an orchestral piece by this non-Polish composer that includes a "dance of death" motif in its *Dies Irae* second movement. Julian Bream edited the guitar part for this composer's setting of Arthur Waley translations, his *Songs from the Chinese*. This composer was commissioned by the Japanese government to write a piece for the 2600-year anniversary of the Mikado, resulting in his (*) *Sinfonia da Requiem*. This composer used a C-F-sharp tritone motif in a piece that concludes with an eight part choral canon beginning "in paradisum deducant." That piece by this composer was commissioned for the new Coventry Cathedral and set Latin text alongside poems like "Strange Meeting." For 10 points, name this English composer who used Wilfred Owen poems in his *War Requiem*.

ANSWER: Benjamin Britten [accept Edward Benjamin Britten, Baron Britten]

<Classical Music, TH>

22. A self-reporting stress index named for this practice was developed by Richard Abidin. University of Wisconsin researcher Patrica Kuhl is best known for studying the unique intonations of people engaging in this practice in a supposedly universal "-ese" ("ease") named for it. Researchers of this practice generally grade styles of it on axes of responsiveness and demandingness. Praise, specificity, and physical (*) touch are the three steps to the Kazdin Method of this practice, which was developed by its namesake at a Yale research center devoted to it. Diana Baumrind devised the classical trichotomy of permissive, authoritarian, and authoritative styles of the practice, practitioners of which should strive to be "good enough" according to Donald Winnicott. For 10 points, name this familial practice that was discussed in a series of best-selling books by Dr. Benjamin Spock.

ANSWER: parenting [accept child care, child rearing, raising kids, or synonyms; accept talking or speaking to children; accept mothering or fathering; accept being a mother or father] (The second clue refers to the concept of "motherese.")

<Social Science: Sociology/Anthropology, TH>

Bonuses

1. In a tense scene in this film, the protagonist starts coughing uncontrollably after driving behind a smoke-emitting truck and has to pull into a parking garage to recover. For 10 points each:

[h] Name this Todd Haynes film centering on Carol, a California housewife played by Julianne Moore who attempts to recover from a mysterious environmental illness at the cult-like Wrenwood Center.

ANSWER: **Safe**

[e] Another film set in the 1980s San Fernando Valley and starring Julianne Moore is *Boogie Nights*, an early film by this director of *Magnolia* and *The Master*.

ANSWER: Paul Thomas **Anderson**

[m] Todd Haynes also directed Julianne Moore in *I'm Not There*, an experimental biopic about this man. At the beginning of a black and white D. A. Pennebaker documentary, this man stares at the camera as he drops cards containing song lyrics to the ground.

ANSWER: Bob **Dylan** [or Robert Allen **Zimmerman**] (The film is *Dont Look Back*.)

<Other Arts: Film, TH>

2. The autobiographies of Peter Cartwright detail his time working in this specific job in Kentucky and Illinois. For 10 points each:

[h] Name this specific job undertaken by men like Francis Asbury and William Brownlow. Men were assigned to specific routes for this job at Annual Meetings that followed the 1784 Christmas Conference.

ANSWER: **circuit riders** [accept **traveling** or **itinerant** Methodist **preachers** or **clergy**; prompt on **priests**, **clergy**, **preacher**, **revivalists** or **missionaries**]

[e] Circuit riders were instrumental in the explosion of Methodism during this religious revivalist period that lasted for much of the first half of the 19th century. Charles Finney preached in the burned-over district of New York during this period.

ANSWER: **Second Great Awakening** [prompt on **Great Awakening**]

[m] The Cavalry of Christ were a group of circuit rider-like itinerant Catholic priests who largely prozeletized in the land near this river. The Chamizal dispute arose because of changes in the flow of this river.

ANSWER: **Rio Grande** [accept **Río Bravo** del Norte]

<US History, TH>

3. This error is removed by performing subsystem calculations using ghost atoms, but doing so can overestimate it by introducing artificial repulsions. For 10 points each:

[h] Name this error dealt with by the counterpoise method of Boys and Bernardi. This error and a similarly named “incompleteness” error have opposite effects on the interaction energy.

ANSWER: **basis set superposition** error [or **BSSE**] (The other error is basis set incompleteness error.)

[e] Corrections for BSSE must be applied in addition to correcting for this force when modeling noncovalent interactions. This attractive force occurs due to the formation of instantaneous dipoles.

ANSWER: **London dispersion** force [accept either underlined portion; or **LDF**; prompt on **van der Waals** forces]

[m] Approaches that are “post” this method are required to accurately model dispersion since it arises from electron correlation. This method solves the Schrödinger equation by replacing an N electron wave function by a single Slater determinant.

ANSWER: **Hartree–Fock** method [or **HF** method]

<Chemistry, JS>

4. An extended metaphor in a sonnet compares this concept to a “wayward girl” who “will not speak to those / Who have not learnt to be content without her.” For 10 points each:

[m] Name this concept that also partially titles a 14th-century dream poem in which the speaker is guided through a glass palace by an eagle and muses about the poet’s ability to bestow this onto their subjects.

ANSWER: **fame** [accept “On **Fame**”; accept *The House of **Fame***]

[e] “On Fame” is a sonnet by this Romantic poet who meditated on his imminent death in “When I Have Fears That I May Cease to Be.” He also wrote “Bright Star.”

ANSWER: John **Keats**

[h] This poetess imagined fame as a “new-born lamb” and a “blot upon the night” in her poem “Fame.” This early modernist wrote “The Farmer’s Bride” and “In Nunhead Cemetery.”

ANSWER: Charlotte **Mew** [or Charlotte Mary **Mew**]

<Poetry, TH>

5. Husein Rofe spread this spiritual movement to the U.K., where it was further popularized by the British army translator and Gurdjieff follower John Bennett. For 10 points each:

[h] Name this Indonesian spiritual tradition, which focuses on oracular “openings” called *latihans*. Though the name of this tradition is similar to that of its founder, it is actually an acronym of dharma and two other terms.

ANSWER: **Subud** [or **Susila Budhi Dharma**]

[e] Though practitioners of Subud may be part of any religion, they mostly belong to this majority religion of Indonesia.

ANSWER: **Islam** [accept being **Muslim**]

[m] Subud’s founder, Pak Subuh, has a name referring to this time period. The *fajr* prayer is performed at this time.

ANSWER: **dawn** [or **sunrise**; or **daybreak**; prompt on morning]

<Religion, TH>

6. Answer the following about the work of the literary critic Frank Kermode, for 10 points each:

[e] A 1975 monograph by Kermode is titled for this type of well-regarded book, also discussed in an Italo Calvino essay titled *Why Read [these books]?* Penguin publishes a series of these books with an iconic black, white, and orange bottom border.

ANSWER: **classics** [accept *The **Classic***; accept *Why Read the **Classics**?*; accept Penguin **Classics**]

[m] Kermode discusses notions of plot finality in his influential 1967 study with this name. This phrase also titles a Julian Barnes novel in which Tony investigates the suicide of his friend Adrian.

ANSWER: *The **Sense of an Ending**: Studies in the Theory of Fiction*

[h] Kermode’s use of hermeneutics anticipated this movement within literary criticism championed by Norman Holland and Stanley Fish. Partisans of this movement with a two-word, hyphenated name emphasize the thoughts and emotions of the audience of a text rather than the intent of the author or the text itself.

ANSWER: **reader-response** criticism

<Other Literature, TH>

7. This reflex and the ATNR are common diagnostic tools for child neurologists. For 10 points each:

[h] Name this reflex that is elicited by elevating an infant's head to thirty degrees, and then suddenly dropping it to level. This reflex is characterized by extension, abduction, and then adduction of the upper limbs, usually followed by crying.

ANSWER: **Moro** reflex [prompt on startle reflex]

[m] Prolonged retention of the Moro reflex is a sign of the spastic type of this class of movement disorders. A commando crawl is the first sign of this class of disorders in children, and gait abnormalities indicative of it include a semi-circle-like gait and scissor gait.

ANSWER: **cerebral palsy** [or **CP**]

[e] A weak Moro reflex is displayed in infants who underwent this sort of birth. This sort of birth is defined as a birth that occurs before 37 weeks.

ANSWER: **premature** birth [accept **preterm** birth]

<Biology, TH>

8. A 1991 study by Alan Blinder found that this quantity was changed less than twice a year by over half of the firms surveyed. For 10 points each:

[e] Name this quantity believed to be "sticky" in the short run due to a breakdown of the classical dichotomy. This quantity appears on the y-axis of demand curves.

ANSWER: **prices** [accept **price** of a good or service]

[h] Blinder's study found that the leading cause of price stickiness among surveyed firms was an example of this scenario in which firms fail to reach the most desirable equilibrium through a lack of communication.

ANSWER: **coordination failure**

[m] Many New Keynesians endorse this model to explain coordination failure. In this model developed by a 2010 Nobel laureate, traders in a search economy are unable to find exchange partners instantaneously.

ANSWER: **Diamond coconut** model [prompt on partial answer]

<Social Science: Economics, WG>

9. Like the older Wing Chun style, this style of martial arts prominently used a simultaneous push and strike called the *pak sao*. For 10 points each:

[h] Name this hybrid martial arts style developed beginning in 1967 by a man who rejected the formalist style of his teacher Ip Man in favor of using the most effective techniques from diverse styles like Muay Thai and jiu-jitsu. This style is a predecessor to contemporary mixed martial arts.

ANSWER: **Jeet Kune Do** [or **JKD**; accept *jiht kyùhn douh* accept the **Way of the Intercepting Fist**; accept, but DO NOT REVEAL, Jun Fan **Jeet Kune Do**]

[e] Jeet Kune Do was created by this Hong Kong-American martial artist and actor who starred in *Fist of Fury* and *Enter the Dragon* before dying at age 32.

ANSWER: Bruce **Lee** [or **Lee** Jun-fan]

[m] Jeet Kune Do also draws on this martial art and Olympic event created by Jigoro Kano. Anton Geesink and Ilias Iliadis were masters of this martial art.

ANSWER: **judo** [accept the **gentle way**]

<Other Academic, TH>

10. An event in this year occurred when a market disturbance halted all automated trading momentarily, allowing firms offering stub quotes to buy shares of Apple at 75 cents. For 10 points each:

[h] Give this year in which a May 6th “flash crash” caused by errors in high-frequency trading algorithms led to a one trillion dollar loss that rebounded after only 38 minutes. The term “fragile liquidity” was coined during the analysis of the “flash crash” of this year.

ANSWER: **2010** [accept **2010** flash crash]

[e] Algorithmic bugs and exploits have resulted in the liquidation of Mt. Gox and Youbit, which were exchanges for these assets. In 2016, a hacker made off with fifty million dollars in Ethereum, one of these assets.

ANSWER: **cryptocurrency** [prompt on digital **currency**; anti-prompt on **Bitcoin**]

[m] This pseudonym was used by the author or authors of the white paper that introduced Bitcoin, the first cryptocurrency with a public ledger. Leading candidates for the identity of the user of this pseudonym include Hal Finney and Nick Szaba.

ANSWER: **Satoshi Nakamoto** [accept either underlined part]

<Commonwealth/International History, TH>

11. This essay defends the view that there exists “high art” and “low art,” which are represented by the two title concepts. For 10 points each:

[m] Name this essay that theorizes that a Russian peasant would prefer paintings by Ilya Repin over Pablo Picasso, since the former’s paintings “tell a story” while the latter’s are “austere and barren.”

ANSWER: “**Avant-Garde and Kitsch**” (by Clement Greenberg)

[e] For Clement Greenberg, the Avant-Garde was represented in his time by this artistic movement whose practitioners included Mark Rothko and Jackson Pollock.

ANSWER: **abstract expressionism** [prompt on partial answer; accept **drip** painting; accept **color field** painting]

[h] The rise of movements like abstract expressionism challenged this critic’s notion that the history of Western art was the history of the search for more vivid renderings of reality. This art historian formulated his concept of “schemata” in *Art and Illusion* and wrote the Eurocentric survey *The Story of Art*.

ANSWER: Ernst **Gombrich** [or Sir Ernst Hans Josef **Gombrich**]

<Painting/Sculpture, SJ>

12. Developed independently by Tikhonov and Cagniard in the 1950s, this passive geophysical method is used for oil exploration in regions where seismic surveys are difficult. For 10 points each:

[h] Name this geophysical method that measures the electrical resistivity of subsurface features using currents induced by naturally occurring electromagnetic waves.

ANSWER: **magnetotellurics** [or **MT**; accept anything mentioning **telluric currents**; accept **audio-frequency magnetotellurics**; accept **AMT**; accept **controlled source audio magnetotellurics**; accept **CSAMT**]

[e] Very high resistivities found using magnetotellurics can be indicative of the presence of this abundant crustal mineral. Tetrahedral lattices of SiO₄ (“S-I-O-four”) make up this mineral with a Mohs hardness of seven.

ANSWER: **quartz**

[m] Magnetotellurics takes this quantity’s effect on rock resistivity into account using Hashin–Shtrikman bounds and Archie’s first law. This quantity is closely related to the void ratio.

ANSWER: **porosity** [accept **porous** or **porousness**]

<Other Science: Earth Science, TH>

13. This organization operated out of Alamut Castle after its seizure by Hassan-i Sabbah, who was referred to as “The Old Man of the Mountain.” For 10 points each:

[e] Name this Ismaili Shia order known for using hashish and secretly murdering political enemies, a proclivity that has resulted in their name becoming a byword for political killers.

ANSWER: **Assassins** [or **Hashīshiyya**; prompt on **Nizaris**]

[h] This Seljuk politician is often cited as the first victim of the Assassins. This politician composed the *Siyāsatnāma* and is the namesake of a type of 11th-century educational institution.

ANSWER: **Nizam al-Mulk** [or **Abu Ali Hasan** ibn Ali ibn Ishaq al-Tusi; prompt on **Nizamiyyah** or **Nezamiyeh**]

[m] This ruler and his son Malik Shah both employed Nizam al-Mulk as Vizier. This ruler captured Byzantine emperor Romanos IV, as related by the chronicler Abu Bakr al-Turtushi.

ANSWER: **Alp Arslan** [or **Muhammad** bin Dawud **Chagri**]

<World History, GP>

14. After answering a call in a Cockney accent concerning several people being in Spain, a character in this play switches to a posh accent to wonder if she was supposed to get a plate of sardines from the kitchen. For 10 points each:

[m] Name this farce by Michael Frayn whose three acts feature performances of the first act of a fictional play directed by Lloyd Dallas.

ANSWER: **Noises Off**

[e] Shelagh Delaney’s *A Taste of Honey* and plays by a group dubbed the “Angry Young Men” are standouts of the “kitchen sink” style of this movement that focused on the everyday lives of the English working class.

ANSWER: **realism** [accept kitchen sink **realism** or social **realism**; accept **realist** literature]

[h] Deli struggles to keep his son away from London gangs while running a West Indian plantain shop in *Elmina’s Kitchen*, a play by this current artistic director of the Young Vic. Idris Elba collaborated with this author on the 2019 musical *Tree*.

ANSWER: Kwame **Kwei-Armah** [prompt on partial answer]

<Drama, AP>

15. In Acts chapter 14, verse 12, the populace of Lystra believe Paul and Barnabas to be human incarnations of these two deities. For 10 points each:

[m] Name these two Greek deities who, in another myth, reward Philemon and Baucis for their hospitality by granting their wish to die at the same instance by transforming them into a two-trunked tree.

ANSWER: **Zeus** [accept **Jupiter**] AND

Hermes [accept **Mercury**]

[h] Bart Ehrman’s book *How Jesus Became God* discusses the Paul and Barnabas episode as evidence that deity incarnation was a common Greco-Roman belief. That book also discusses this Greek philosopher and prophet from Tyana, who is notable for his many parallels with Jesus, including claims of divinity, a virgin birth, and returning from the dead.

ANSWER: **Apollonius** of Tyana [or **Apollonios** of Tyana]

[e] The similar hero stories of Apollonius of Tyana and Jesus are compared in *The Hero with A Thousand Faces*, a book by this comparative mythologist.

ANSWER: Joseph **Campbell** [or Joseph John **Campbell**]

<Mythology, TH>

16. *Pencil and paper ready.* You are a sad quantum student reviewing for your midterm by adding the spins of a spin one-half particle and a spin-1 particle. For 10 points each.

[h] You grudgingly begin by figuring out that the allowed values of the total spin are three-halves and one-half. You reached that conclusion because (emphasize) *this integer* is both (read slowly until end) the dimension of the direct (emphasize) *sum* of a spin three-halves space and a spin one-half space, and the dimension of the direct (emphasize) *product* of a spin one-half space and a spin one space.

ANSWER: **6** (The dimension can be calculated as $(2 \cdot 3/2 + 1) + (2 \cdot 1/2 + 1) = 6$, or $(2 \cdot 1/2 + 1)(2 \cdot 1 + 1) = 6$.)

[e] When constructing all 6 coupling states, you simplify your calculations by remembering that states with different values of s have this property. This property is a generalization of perpendicularity to arbitrary vector spaces.

ANSWER: **orthogonality** [accept **orthonormality**]

[m] You check your algebra by looking up the table of these coefficients on page 188 of Griffith's, second edition. These coefficients represent the probability amplitudes of the coupling of angular momentum eigenstates.

ANSWER: **Clebsch–Gordan** coefficients [or **vector addition** coefficients]

<Physics, LL>

17. Dance suites of the Baroque era often used the “balanced” type of this form, while composers of the early Classical were more likely to use its rounded variant. For 10 points each:

[m] Name this musical form that structures phrases in either an A-B or A-A-B-B pattern. According to a namesake principle, a continuous major piece in this form should modulate from the tonic to the dominant in the first section, and then modulate back to tonic in the second.

ANSWER: **binary** form [accept rounded **binary** form; accept balanced **binary** form; accept simple **binary** form; accept **binary** principle]

[e] The popularity of binary form waned over the course of the Classical era largely because of the popularity of this other form that can be broken down into exposition, development and recapitulation sections.

ANSWER: **sonata** form [accept **first-movement** form]

[h] According to the binary principle, a continuous binary piece beginning in the key of B minor should modulate to what key in its second section?

ANSWER: **D major** [prompt on **D**]

<Classical Music, TH>

18. This film was the first major American blockbuster to open in China, appearing in just six cities in that country in 1994. For 10 points each:

[h] Name this film, an update of a 1960s TV series starring David Janssen whose finale was once the highest-rated TV program in history. Kiefer Sutherland is starring in a Quibi (“kwibby”) update of this film and TV show.

ANSWER: *The **Fugitive***

[e] Although many American films now open more widely in China, they still face censorship. Many of the scenes touching on Freddie Mercury's sexuality in this 2018 film were removed for the Chinese market.

ANSWER: ***Bohemian Rhapsody***

[m] The Chinese blockbuster industry has not produced a major hit abroad. This sequel and all-time highest grossing Chinese film about a hostage rescue in Africa grossed just 2.7 of its 867-million-dollar box office in the US.

ANSWER: ***Wolf Warrior 2*** [or ***Zhan Lang 2***; reject “*Wolf Warrior*” or “*Zhan Lang*”]

<Pop Culture, MB>

19. Armed with books like Florence Adams' *I Took a Hammer in My Hand*, over two thousand people attended a "fair" named for these buildings in 1973 at the Hotel Bossert. For 10 points each:

[m] Give this term for a type of home whose characteristic façade was often obtained from the Portland Quarries in Connecticut.

ANSWER: **brownstone** townhouse [prompt on row houses or townhouses]

[e] In his book *Bricks & Brownstones*, Charles Lockwood showed that many Manhattan brownstones were built from kits. Many later kit houses were constructed across the US from the mail-order catalogue of this department store that went bankrupt in 2018.

ANSWER: **Sears** [or **Sears**, Roebuck and Co.]

[h] This architecture critic complained that brownstones were nothing more than "cold chocolate sauce." This critic co-authored *The Decoration of Houses* with Ogden Codman in 1897.

ANSWER: Edith **Wharton** [prompt on Edith Newbold Jones]

<Other Arts: Visual, MB>

20. A character carrying out this action notes that one of the objects involved was in need of "a little rhubarb to purge [its] excess of bile." For 10 points each:

[m] Name or describe this action carried out by a priest and a barber and observed by a girl who later claims that the objects involved were actually stolen by a sage of questionable name.

ANSWER: **burning** of Don Quixote's **books** [accept equivalents for **burning** and **books** like **incinerating romances**; accept **destroying** instead of **burning**; prompt on **burning** by asking "what objects are being burned?"; prompt on answers mentioning **books** by asking "what is being done to the books?"]

[h] This Valencian romance is spared from being burned when it falls at the feet of the priest, who calls it the "best book in the world" although he says its author, Joanot Martorell ("zhew-ah-NAWT mart-oh-REL") ought to be "sent to the galleys for life."

ANSWER: **Tirant Lo Blanch** ("tee-RAHN lo blank") [or **Tirant lo Blanc**; or **Tirante el Blanco**; accept, but DO NOT REVEAL, **Tirant the White**]

[e] Tirant Lo Blanch translates as "Tirant" of this color in English. In *Don Quixote*, Sansón Carrasco is revealed to be the Knight of the Moon of this color.

ANSWER: **white**

<Long Fiction, AP>

21. Machamer, Darden, and Craver presented an influential definition of these things in a 2000 paper titled for "thinking about" them. For 10 points each:

[h] Name these things that have been the focus of a "new" movement in the philosophy of science since the beginning of the 21st century. The MDC definition of these things states that they are both "entities and activities" that are productive of regular changes from start to end conditions.

ANSWER: **mechanisms** [accept "Thinking About **Mechanisms**"; accept new **mechanism**]

[e] The turn from pure logical empiricism to historically-informed examinations of mechanisms can be traced to this philosopher's influential book *The Structure of Scientific Revolutions*.

ANSWER: Thomas **Kuhn** [or Thomas Samuel **Kuhn**]

[m] Thinkers of the new mechanist movement who give activity-based accounts of causation through mechanisms draw on the work of this earlier philosopher, who wrote about a bomb attached to a Geiger counter in the paper "Causality and Determination."

ANSWER: G. E. M. **Anscombe** [or Gertrude Elizabeth Margaret **Anscombe**]

<Philosophy, TH>

22. Answer the following about the surrender of the Kingdom of Granada, for 10 points each:

[e] This edict, which was passed after the surrender and named after a Granadan palace complex, prohibited *marranos* from exporting ducats and expelled all Jews from Spain.

ANSWER: **Alhambra** Decree [or **Edict of Expulsion**]

[m] This last Nasrid Sultan of Granada is said to have been told, “You weep like a woman for what you could not defend as a man,” by his mother as he looked back at the city after handing the Alhambra’s keys to Ferdinand II, an event known as “the Moor’s last sigh.”

ANSWER: **Boabdil** [or Abu Abdallah **Muhammad XII**]

[h] Many Granada Muslims called *moriscos* were forced to convert to Christianity in the aftermath of the first of these uprisings named after a mountainous region of Castille. Aben Humeya led the second uprising of this name.

ANSWER: Rebellion of the **Alpujarras** [accept War of the **Alpujarras**]

<Post-500 European History, AD>