

SUBMIT 2014: “sometimes referred to as Groper[citation needed]”

Packet by Yale A and OSU A

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Tossups

1. In the interaction picture, this statement is modified by Tomonaga and Schwinger. Up to constant real factors, this equation differs from the heat equation by a factor of i . When viewed non-relativistically, propagators are the Green's functions for this equation. The most general form of probability current conservation is a corollary of this equation. (*) Solving one form of this equation yields the energy spectrum of a quantum system. This equation equates $i\hbar$ times the time derivative of a wavefunction with the Hamiltonian of the wavefunction. For 10 points, name this equation that describes the evolution of a quantum state, whose developer also posited a thought experiment about a superposition of living and dead cats.

ANSWER: Schrödinger equation

2. A general store in one story by this author reminds the protagonist of an engraving in an edition of *Paul et Virginie*. In that story by this author, a man who looks Chinese throws spitballs of breadcrumbs at the protagonist. One story by this author opens with Treviranus and the protagonist finding the body of Doctor Yarmolinsky; that protagonist later arrives at Triste-le-Roy on March 3rd and is promised that “the next time I kill you” it will be on a point along a “single straight line which is invisible and everlasting.” In that story by this author, (*) Red Scharlach kills the protagonist, a Kabbalah-inspired detective named Erik Lönnrot. Another of his stories begins with Johannes Dahlmann landing in Buenos Aires. For 10 points, name this Argentine author who included “The South” and “Death and the Compass” in his *Ficciones*.

ANSWER: Jorge Luis Borges

3. Following this event, Donald Cobb admitted that he had issued a fake communique attributed to some participants in this event. The instigators of this event demanded the rehiring of the Lapalme Boys. Thousands of university students attended a rally at Paul Sauve Arena in support of this event's perpetrators, and Robert Bourassa urged one action during this event. Members of the Chenier Cell and the Liberation Cell negotiated for passage to Cuba during this event. One leader during this event told journalist Tim Ralfe (*) “Just watch me” only days before enacting the War Measures Act. During this event, British trade commissioner James Cross was kidnapped and Pierre Laporte was executed. For 10 points, name this 1970 series of events during which Canadian prime minister Pierre Trudeau suspended civil liberties to deal with the Front de libération du Québec.

ANSWER: October Crisis (or La crise d'octobre)

4. The 6/8 first movement of this composer's seventh symphony begins with the cellos and violas playing the first theme over a sustained D in the horns and tremolo in the basses. The trumpet fanfare that begins the last movement of his eighth symphony includes the same C D E motif as its main theme, which is first stated by the cellos. The first theme of the first movement of this composer's last symphony is first played by the french horn under tremolo strings and outlines a slightly syncopated E minor (*) arpeggio. The first theme of the Largo second movement of his ninth symphony is first stated by the English horn; that movement depicts scenes from *The Song of Hiawatha*, one of that symphony's many “American” inspirations. For 10 points, name this Czech composer of the “New World” Symphony.

ANSWER: Antonín Leopold Dvořák

5. The Black Madonna of Czestochowa represents one of these beings. A family of these beings are known for

a dance called the “banda” and for consuming hot peppers and cheap cigars; that family represents the powers of death and fertility and are called the Ghede. One of these beings is represented by the palm frond and is involved in the (*) kanzo rites, while another of them opens and closes the doorway of communication between humans and these entities. They are used as intermediaries between worshippers and the creator deity, Bondye, and they include in their ranks one who wears a top hat, black tuxedo and dark glasses. For 10 points, name these entities that include Ayizan, Papa Legba and Baron Samedi, the spirits of Haitian Voodoo.

ANSWER: Loa (or Lwa)

6. One character in this play recounts how he wiped his hands on his coat after asking Mr. Manders to come to dinner with his attorney Sol Fowler. In the opening scene of this play, Cal compliments another servant on her “frozen fruit cream” while they prepare to host a dinner for Mr. Marshall, a Chicago businessman. After Addie mentions “people who eat the earth,” a character in this play who misses her estate at Lionette admits that she dislikes her son. In this play, a (*) wheelchair-bound character returns from John Hopkins hospital with Alexandra and realizes that Leo has stolen \$88,000 in bonds from him to finance a cotton gin. Ending with Regina withholding heart medicine from her husband Horace, for 10 points, name this play featuring the Hubbard family by Lillian Hellman.

ANSWER: *The Little Foxes*

7. This phenomenon occurs in an organ called the esca, which protrudes dorsally from the spine via the illicium in species like *O. acanthias*, and is believed to contain bacteria of family *Vibrionaceae*. Coelenterazine is a substrate in one reaction that causes this phenomenon; that reaction, occurring in *Renilla*, is often leveraged in an imaging technique called (*) BRET. In another organism, this phenomenon is the product of an operon whose Y subunits encode YFP; in that organism, *A. fischeri*, the *lux* operon’s A and B subunits encode a luciferase, which catalyzes the oxidation of a luciferin into an electronically-excited state, from which the luciferin then decays. For 10 points, name this phenomenon in which a living organism emits light, observed in anglerfish and fireflies.

ANSWER: bioluminescence (accept chemiluminescence; prompt on “fluorescence”)

8. This man was brought back to his country by George Alfred Grant and later founded an “Ideological Institute” at which college students were orientated to his ideologies. The National Liberation Council overthrew this leader, replacing him with Joseph Ankrah; that coup had occurred while this man was on a trip to North Vietnam, after which his Convention People’s Party was banned. The construction of the (*) Akosombo Dam on the Volta River led to a loss of support for this man, who had given the “Motion of Destiny” speech shortly before declaring independence for his country. This man launched the Positive Action campaign and was one of the leaders of the Non-Aligned Movement. This man wrote several books on Pan-Africanism. For 10 points, name this first President and Prime Minister of Ghana.

ANSWER: Kwame Nkrumah

9. While in Paris, he painted a woman dressed in only a white shirt who leans against her bed with the sheet tumbling down in *Summer Interior*. A telephone pole sits behind a sign that says “FOR SALE” in red print in a painting by this man, whose center is dominated by a three-story house. A brown trenchcoat hangs in the background of the title establishment of another of painting by this artist of *East Wind Over* (*) *Weehakwen*. In that painting by this artist, two similarly-dressed women converse in the foreground of a restaurant. In his most famous painting, two metal tanks sit in a restaurant, above which is a sign that says Phillies. For 10 points, name this American painter of *Nighthawks*.

ANSWER: Edward Hopper

10. This thinker argued that “barbarians have no rights as a nation” and that civilized nations could

therefore intervene in barbarous nations as long as they respected the rights of the inhabitants. In a chapter titled “Of the Stationary State,” this philosopher said that “unlimited increases of wealth and population” would cause the earth to “lose that great portion of its pleasantness.” (*) He formulated five principles for inductive reasoning, which are known as his namesake methods. He coauthored an influential early feminist essay with his wife Harriet Taylor. In addition to “The Subjection of Women,” his most famous work defended and elaborated on the Greatest Happiness Principle. For 10 points, name this English philosopher who wrote *Utilitarianism*.

ANSWER: John Stuart Mill

11. This is the heaviest element found in an iodine-containing reagent that is used to detect ammonia in aqueous solution; that reagent is named for Nessler. In a now-disfavored variant of the chloralkali process, this element was floated beneath a brine solution, and an alloy of it with sodium was yielded as a byproduct. The acetate of this element in a plus-2 oxidation state is a reagent in an electrophilic anti-addition that converts an alkene (*) into an alcohol, and that reaction is typically followed by a sodium borohydride reduction which removes this element. This transition metal’s dimethyl is a ridiculously potent neurotoxin that was responsible for the death of Karen Wetterhahn. Alloys containing this element are called amalgams. For 10 points, name this element, the only metal that is liquid at room temperature.

ANSWER: mercury (or Hg)

12. One king of this name was forced to sign the *Intercursus Malus* with Henry VII after being shipwrecked in England. After the wife of one king of this name died in childbirth, Rodrigo Calderon was accused of bewitching her; Calderon was a minister of that king’s unpopular adviser, the Duke of Lerma. One king of this name was advised by the Count-Duke of Olivares and lost decisively at the Battle of the Downs. Another king of this name ordered Antonio Perez to kill Juan de Escobedo and, with (*) Henry II, signed the Treaty of Cateau-Cambrésis. That king of this name put the Duke of Medina-Sidonia in charge of one expedition and ordered the Duke of Alba to quell unrest in the Netherlands. For 10 points, name this common regnal name of Spanish monarchs, the second of whom sent the Spanish Armada to England.

ANSWER: Philip (or Felipe)

13. A novelist writing in this language included “Civilization” and “Peculiarities of a Fair-Haired Girl” in his collection *Stories*. A massive novel written in this language ends with one of the protagonists and his friend running after a tram and involves that protagonist learning that his lover Maria Eduarda is actually his sister, the product of his mother and an Italian named Tancredo. It’s not Russian, but author writing in this language collected his thoughts on various literary figures and works like *King Lear*, which he deemed defective, as well as a timeline of the birthdays of his (*) heteronyms into a “factless autobiography.” This language was used to write a novel in which the doctor’s wife stabs a thug in the neck with a pair of scissors before leading several people with the title condition out of a quarantined asylum. For 10 points, name this language used by Fernando Pessoa and Jose Saramago.

ANSWER: Portuguese

14. Multi-story pilasters and arch-headed windows characterize a marble palace that holds the Pesaro family collection in this city. Napoleon ordered the creation of a large garden in this city that now hosts a biennial architectural convention. Savageness, rigidity, and redundancy are among the qualities listed in “The Nature of Gothic,” an architectural essay from a book about this city. Rows of balconies whose arches have quatrefoil windows are visible on the outside of a gold-leaf adorned building in this city. John (*) Ruskin described this city’s architecture in a book about its namesake “stones.” The Ca’ d’Oro is a landmark in this city, whose most prominent cathedral features a large winged lion. For 10 points, name this Italian city that is home to the Doge’s Palace, St. Mark’s Basilica, and the Grand Canal.

ANSWER: Venice (or Venezia)

15. **This team drafted quarterback Brooks Bollinger, and one awful mid-90s season for this team saw them start Glenn Foley, Neil O'Donnell, and Frank Reich at quarterback. That 1–15 season was helmed by Rich Kotite, and this team's last playoff appearance saw them defeat the Colts in a wildcard match. Prior to a 2011 game against this team, Wes (*) Welker gave an infamous press conference that led to his benching. This team used a running back corp last year consisting of Alex Green, Chris Ivory, and Bilal Powell, and this team ended up using their second round draft pick as their starting QB. Prior to starting Geno Smith, this team started the butt-fumbling Mark Sanchez. For 10 points, name this AFC East team, coached by the foot-loving Rex Ryan, that shares a city with the Giants.**

ANSWER: New York Jets

16. **In 1999, Dupoux et al. tested French and Japanese speakers on stimuli like /ebuzo/ and found that the rules of these entities' structure in one's native language affects one's perception of speech. In general, sonority is highest at the center of these units and lowest at the edges, though English violates it with /s/ plus stop onsets. In languages like Japanese, these are divided into (*) morae that all last roughly the same duration. Phonotactics is the part of phonology that deals with restrictions in the structure of these units. The writing systems of Linear B and Cherokee are based on these units, which may be separated by periods in IPA. These are made of an onset and a rime containing a nucleus and a coda. For 10 points, name these rhythmic units of speech comprised of segments that make up words.**

ANSWER: syllables (anti-prompt on "morae," "onsets," "rimes," etc. before mentioned)

17. **During the Civil War, this tribe split loyalties, with those loyal to the Union being led by John Chupco and those loyal to the Confederacy being led by John Jumper. At the beginning of one conflict with this tribe, Chief Neamathla attacked a settlement at Fowltown. This tribe signed the Treaty of Fort Moultrie shortly before the outbreak of a war which began with the Dade massacre and included the capture of several of this tribe's leaders under a flag of truce by Thomas Jessup. James (*) Gadsden helped negotiate the document that removed many of this tribe from their lands, the Treaty of Payne's Landing. In one war with this tribe, a structure named after the runaway slaves that had joined this tribe, the Negro Fort, was destroyed by Andrew Jackson. For 10 points, name this Native American tribe originally of Florida, which was led by Ocoola during one of their namesake wars against the U.S. Federal Government in the 19th century.**

ANSWER: Seminole

18. **According to Book III of Virgil's *Georgics*, this group invented the bridle bit and horseback riding. This group of humans is rebuked by Apollo on the west pediment of the Temple of Zeus at Olympia. These people included Phlegyas, who burned down a temple of Apollo after his child had an affair with Ischys. This group once fought beside an invincible warrior who was nonetheless crushed by a pile of logs. The sex-changed hero (*) Caeneus defended these people, who were led by a man who pushed his father-in-law into a fire and sexed up a cloud during an attempted rape of Hera. Drunken insults of Hippodameia from guests led a wedding organized by these people to get violent. They include the wheel-bound Ixion and a poor sap who got stuck on a chair in the underworld after his friend Theseus got out. For 10 points, name this northern tribe once led by the prince Pirithous, who warred with the centaurs.**

ANSWER: Lapiths (prompt on "Thessalians" or "people from Thessaly")

19. **This body has the largest greatest elongation out of all bodies that do not exhibit quadrature relative to Earth. The "black drop" effect was previously thought to be evidence for this body's atmosphere. This body's 2012 occultation of a star, a consequence of its almost-8-to-13 commensurability with Earth, was used to refine existing techniques for studying exoplanet transits. The first successful flyby of this body, performed**

by the fourth in a series of (*) sixteen Soviet probes named for this body, discovered that it has a very weak magnetic field, which was later found to be induced rather than intrinsic. Uranus and this planet have retrograde orbits, and this planet's carbon dioxide atmosphere raises its surface temperature to well over 400 degrees Celsius. For 10 points, name this second planet from the sun.

ANSWER: Venus

20. This poet described a figure who once sat with his lover "On a red gold throne in the heart of the sea" in a poem that repeatedly includes the question "Children dear, was it yesterday?" The speaker of one of this man's poems recalls seeing a girl and some mowers on a skiff journey through Wytham flats before lamenting "They are all gone, and thou art gone as well!" A poem by this man is based on a tale from Joseph Glanvill and tells of a man who (*) "roam'd the world with that wild brotherhood" after dropping out of Oxford to pursue divine knowledge. This man described a figure who "Time, not Corydon, hath conquered" in an elegy for his friend Arthur Hugh Clough and wrote a poem set "where ignorant armies clash by night." For 10 points, name this British poet of "The Scholar Gypsy," "Thyrsis," and "Dover Beach."

ANSWER: Matthew Arnold

21. This poem describes a figure with a "mythy mind" who "moved among us as a muttering king." Another stanza of this poem depicts "a ring of men" who "chant in orgy... Their boisterous devotion to the sun." One character in this poem claims to be content when birds "test the reality / Of misty fields, by their sweet questionings" shortly after the narrator asks "Shall our blood fail?" This poem ends with the image of pigeons sinking "downward to darkness, on (*) extended wings" and repeats the phrase "death is the mother of beauty." A woman in this poem imagines "her dreaming feet" travelling to "Palestine / Dominion of the blood and sepulchre" and watches "the green freedom of a cockatoo." For 10 points, name this poem that features the musings of a woman in a complacent peignoir by Wallace Stevens.

ANSWER: "Sunday Morning"

Bonuses

1. One member of the title group of this play, Baumert, kills his beloved family dog for food but cannot keep it down. For 10 points each:

[10] Identify this play in which workers like Becker become fed up with the abuses of the cashier Pfeifer and the industrialist Dreissiger.

ANSWER: *The Weavers* (or *Die Weber*)

[10] This German dramatist used poetic verse to write about the bellmaker Heinrich and his encounter with a spirit of freedom in *The Sunken Bell*. He also penned *The Weavers*.

ANSWER: Gerhard Hauptmann

[10] This young soldier comes from a weaver family and inspires the weavers to revolt by singing his “Dreissiger Song.” He is briefly taken prisoner by Officer Kutsche but returns to lead the mob of angry workers.

ANSWER: Moritz Jaeger (accept either)

2. The analysis and calibration of these things is confounded by the “divergence problem,” which might be due to global dimming. For 10 points each:

[10] Name these things from which time-series data are derived using the regional standardization curve method. Historical reconstructions of the Palmer drought severity index are typically performed using these things.

ANSWER: tree rings (prompt on “trees” or “wood” or obvious equivalents)

[10] A more common use of tree ring data is to reconstruct this property of the Earth. It is generally agreed that this property has exhibited an upward trend in recent years, largely due to increasing atmospheric carbon dioxide concentrations.

ANSWER: temperature

[10] This term refers to external perturbations to Earth’s total energy budget, mostly due to periodic variations in solar insolation. This type of forcing, rather than anthropogenic forcing, was dominant over most of history.

ANSWER: radiative forcing

3. As voivode of Transylvania, this man executed György Dózsa by placing him on a hot iron throne after suppressing his peasant’s revolt. For 10 points each:

[10] Name this man who outmaneuvered Ferdinand I to become King of Hungary in 1526 and agreed to become a vassal of Suleiman the Magnificent.

ANSWER: John I Zápolya (or János I Zápolya; prompt on just “John” or “János,” but accept it with either underlined identifier)

[10] Zápolya was able to claim the crown of Hungary when his predecessor, Louis II, was killed at this battle against the Ottomans. Hungarian mounted knights under archbishop Pál Tomori proved no match for the advanced weaponry of the Ottoman Janissaries at this battle.

ANSWER: Battle of Mohács

[10] Louis’s death at Mohacs ended the rule of this dynasty in Hungary and Bohemia. The last Polish king of this dynasty, Sigismund II, died shortly after establishing Poland–Lithuania with the Union of Lublin.

ANSWER: Jagiellonian Dynasty

4. This artist caused a scandal by displaying her teeth in a self-portrait in which she wears a straw hat and stands in front of a background of gray clouds. For 10 points each:

[10] Name this Rococo painter, who made many portraits of people in the various courts she traveled to during her life, managing to escape the French Revolution along the way.

ANSWER: Marie-Louise-Élisabeth Vigée Le Brun (accept either name)

[10] Vigee Le Brun made many portraits of this Queen of France, with whom she shared a friendship. Jacques-Louis

David made a sketch of this queen before her execution.

ANSWER: **Marie Antoinette** (or **Maria** Antonia Josephina Johanna)

[10] Another Rococo artist was this painter of *The Toilet of Venus*. Like Vigée Le Brun, he was known for being closely associated with the court, as he was patronized by Madame de Pompadour.

ANSWER: François **Boucher**

5. Identify some visions from the Book of Ezekiel. For 10 points each:

[10] Ezekiel is commanded to prophesy against this pair, the leader of Meshech and Tubal, and the land from whence he comes. The first member of this pair is allied with nations like Persia, Ethiopia, and Libya against Israel. Jacques Chirac claimed that George W. Bush invoked this pair as justification for invading Iraq.

ANSWER: **Gog** and **Magog** (Gog is the leader; Magog is the land)

[10] Ezekiel sees the dead resurrected in this place before seeing Gog and Magog destroyed.

ANSWER: the **valley** of dry **bones**

[10] The Book of Ezekiel begins with one of these conveyances coming out of a cloud of fire, pulled by creatures with the faces of a man, a lion, an ox, and an eagle.

ANSWER: **chariots**

6. This region is home to the largest salt flat in the world, Salar de Uyuni, and it was the location of the silver mines of Potosí. For 10 points each:

[10] Name this highlands region in South America, in which the Andes are at their widest. La Paz is located in this region that comprises southwestern Bolivia and parts of Peru and Argentina.

ANSWER: **Altiplano**

[10] This lake in the Altiplano is saline, and it receives water from the Desaguadero River. Its fluctuation in surface area seems to depend on the amount of outflow from a lake to its north.

ANSWER: Lake **Poopó**

[10] That lake, drained by the Desaguadero River, is the highest navigable lake in the world. This lake is located on the border between Bolivia and Peru and is the biggest lake in South America.

ANSWER: Lake **Titicaca**

7. That humans use a hyperbolic form of this procedure has been used to explain behaviors like procrastination and addiction. For 10 points each:

[10] Name this procedure by which a person determines the amount by which the utility of a future reward is less than the value of the same reward in the present.

ANSWER: **discounting**

[10] The failure of humans to exponentially discount is evidence that humans lack this property. Agents with this property are utility-maximizing and perfectly logical, and are presumed to be the subjects of many basic economic models.

ANSWER: **rationality** (accept word forms)

[10] Despite being irrational actors, humans are thought to exhibit rational ignorance, which explains why they often do not participate in these events. Condorcet and Borda were early pioneers in the academic study of the systems by means of which these events occur, and the Gibbard–Satterthwaite theorem extends one result about their outcomes.

ANSWER: **elections** (or obvious equivalents)

8. This novel is framed as a letter written to the narrator's successor, "Mark." For 10 points each:

[10] Name this novel by Marguerite Yourcenar. The narrator of this novel discusses his reign as the "Age of Gold" and talks at length about his Bithynian lover Antinous.

ANSWER: **Memoirs of Hadrian** (or **Memoires d'Hadrien**)

[10] Another novel with a Roman emperor as the protagonist is this Robert Graves work. Written as the biography

of Caligula's successor, this novel perpetuates the myth that Livia killed everyone to ensure her own children and grandchildren held all power in Rome.

ANSWER: I, Claudius

[10] Another novel about dudes from Rome is Henryk Sienkiewicz's *Quo Vadis*, which details the love affair between Marcus Vinicius and this Christian woman, a hostage of Rome.

ANSWER: Ligia (or Calina)

9. Interestingly, in a two-dimensional electron gas, this quantity is independent of energy. For 10 points each:

[10] Name this distribution, a measure of the number of particles that can reside in a given energy interval.

ANSWER: density of states (accept **DOS** prompt on "density")

[10] The density of states is of particular interest in these systems, in which the density of states can be used to derive the electronic band structure, including a conduction band, a valence band, and a band gap.

ANSWER: semiconductors

[10] The conductivity of a pure-silicon semiconductor can be significantly modified by the addition of group III and group V elements like boron and phosphorus, a process given this name.

ANSWER: doping

10. One city ordinance discriminated against this immigrant group by requiring residences to have 500 cubic feet of air per resident, letting San Francisco police arrest them for living in crowded tenements. For 10 points each:

[10] Name this ethnic group whose immigration to the West Coast was also opposed by the Knights of Labor and a 1882 "Exclusion Act" signed by Chester Arthur.

ANSWER: Chinese Americans

[10] This island in San Francisco Bay was home to an Immigration Station that processed over a million Asian immigrants, about five percent of them in legal limbo from the Chinese Exclusion Act, until it caught fire in 1940.

ANSWER: Angel Island Immigration Station

[10] This long-serving senator from Washington State sponsored the act repealing the Chinese Exclusion Act in 1943. He also co-names an act governing product warranties with John Moss.

ANSWER: Warren Grant Magnuson

11. Name some people that Hera hated. For 10 points each:

[10] One of the children of Zeus she had a grudge on for whatever reason was this man, who completed the Twelve Labors under her orders. She switched the birth dates of this man and his cousin Eurystheus.

ANSWER: Heracles (or Hercules)

[10] Hera also unleashed her wrath on women Zeus had affairs with, including this woman. She achieved this woman's death by asking her to get Zeus to reveal his true form to her, which was so bright and wondrous she died from the experience.

ANSWER: Semele

[10] Hera was maybe more reasonable to dislike this King of Iolcus, who with his brother Neleus slew Sidero in one of Hera's temples after Sidero mistreated this man's mother Tyro. This king was the uncle of Jason.

ANSWER: Pelias

12. The Eastern blot is used to study the products of this broad class of processes. For 10 points each:

[10] Name these processes that occur after a polypeptide leaves a ribosome, examples of which include glycosylation, succinylation, ubiquitination, and phosphorylation.

ANSWER: post-translational modification (accept PTA; accept word forms)

[10] One post-transcriptional modification involves the addition of multiple copies of this nucleotide to the 3-prime end of a pre-mRNA transcript. This nucleotide bonds to thymine in DNA and uracil in RNA.

ANSWER: adenine (or A)

[10] This PTM involves the addition of its namesake fatty acid, a C16 acyl chain, to cytosolic. It is unique among lipid modifications because it's reversible.

ANSWER: **Palmitoylation** (accept anything about a **Palmitoyl** group)

13. One chapter in this novel describes Fillmore's attempts to have sex with a Russian "princess" named Macha, who reveals to him that she has "the clap." For 10 points each:

[10] Name this novel which was the subject of several obscenity trials thirty years after it was published. It fictionalizes its author's struggles as a writer in Paris in the late 1920s and early 1930s.

ANSWER: **Tropic of Cancer**

[10] This American author wrote *Tropic of Cancer*, *Tropic of Capricorn*, and *The Rosy Crucifixion* trilogy.

ANSWER: Henry **Miller**

[10] The character of Tania in *Tropic of Cancer* was based on this author, a lover of Henry Miller. She wrote the novel sequence *Cities of the Interior* as well as *Delta of Venus*.

ANSWER: Anaïs **Nin**

14. This man founded the People's National Movement party before becoming his country's first prime minister. For 10 points each:

[10] Name this historian and politician who arrested members of the Black Power Revolution and was succeeded in power by George Chambers.

ANSWER: Eric Eustace **Williams**

[10] Eric Williams was the first prime minister of this nation that obtained independence from the U.K. in 1962. With capital at Port of Spain, this nation is one of the wealthiest in the Caribbean due to its oil holdings.

ANSWER: **Trinidad and Tobago**

[10] Trinidad and Tobago gained its independence around the same time as this other Caribbean nation that is currently led by Portia Simpson-Miller. Prior to independence, several Maroon Wars were fought in this nation.

ANSWER: **Jamaica**

15. This man co-wrote the play *Adrienne Lecouvreur* with Ernest Legouvé, but is better known for his contributions to opera. For 10 points each:

[10] Name this librettist of operas such as *Fra Diavolo* and *Les Huguenots*.

ANSWER: Eugène **Scribe**

[10] Giacomo Meyerbeer, the composer of *Les Huguenots*, wrote in this style of opera, which includes *La Muette di Portici* and employs large casts and often lavish designs.

ANSWER: **grand opera**

[10] Scribe wrote the libretto to *Dom Sebastien*, an opera by this Italian composer better known for *The Elixir of Love* and *Lucia di Lammermoor*.

ANSWER: Gaetano **Donizetti**

16. This man's students include Thomas Pogge, who applies his ideas to global resource allocation; he himself sought to develop a "public criterion" justifying the "basic structure" of the social order. For 10 points each:

[10] Name this liberal Harvard professor who included the "difference principle," the idea that all inequalities must benefit the worst-off, in his "two principles of justice as fairness."

ANSWER: John Bordley "Jack" **Rawls**

[10] Rawls replaced the "state of nature" with this idealized situation. Everyone who deliberates over the social order in this construct is under a "veil of ignorance" about their own identity and wealth.

ANSWER: the **original position** (prompt on "OP")

[10] Rawls used this two-word phrase for the attitude the social order must garner from different faiths or moral codes for a liberal society to be stable. Rawls preferred this attitude to the mere "modus vivendi" approach.

ANSWER: overlapping consensus

17. Some spectral lines are broader than others. For 10 points each:

[10] The minimum width of a spectral line is set by this physical principle, which relates the energy of an excited state to its lifetime. Another version relates position and momentum.

ANSWER: Heisenberg uncertainty principle (or Heisenberg uncertainty principle)

[10] Doppler broadening induces a broadened line shaped like this distribution, as per the central limit theorem. Basis sets composed of wavefunctions with this shape are fundamental in computational chemistry.

ANSWER: Gaussian distribution (or normal distribution)

[10] This type of broadening follows a Cauchy–Lorentz distribution. It results from brief interactions between molecules that cause perturbations of rotational energy levels, and is most significant at high pressures.

ANSWER: collisional broadening (or impact pressure broadening; prompt on “pressure (broadening)”)

18. The first book of this cycle is narrated by a man later called Darley, who later falls in love with the wife of a wealthy Copt named Nassim. For 10 points each:

[10] Name this four-novel cycle including *Justine*, *Balthazar*, *Mountolive*, and *Clea*.

ANSWER: Alexandria Quartet

[10] Another Englishman who wrote a long novel cycle was this author of *Framley Parsonage* and *Barchester Towers*, which he included in his *Chronicles of Barsetshire*.

ANSWER: Anthony Trollope

[10] An early supporter of Trollope was this other English author of *The History of Henry Esmond* and a “Novel without a hero,” *Vanity Fair*.

ANSWER: William Makepeace Thackeray

19. Answer the following about the exciting history of grain supplies in the city of Rome. For 10 points each:

[10] One of these people authored a grain law that allowed for the sale of state grain to citizens at a subsidized rate. That member of this pair of reformers committed suicide after protesting the election of Lucius Opimius, while his brother was murdered by a mob.

ANSWER: Gracchus brothers (accept Gracchi or Tiberius and Gaius Gracchus)

[10] This Republic politician turned the state-run grain sale to commoners, the *annona*, into a free grain dole. Cicero notably defended Milo from accusations of having murdered this man on the Appian way.

ANSWER: Publius Clodius Pulcher

[10] Later, this emperor replaced the grain dole with the distribution of bread, wine, and pork. His military accomplishments include defeating the Juthungi and Alemanni at the Battle of Fano.

ANSWER: Aurelian (or Lucius Domitius Aurelianus Augustus, do not accept anything involving “Aurelius”)

20. Its first melody is played by the low strings and bassoon over an F-sharp held by the violins, and depicts scenes that the composer described to his sister Fanny in a letter. For 10 points each:

[10] Name this orchestral piece, also known as *Fingal’s Cave*, which was written after the same trip that inspired the composer’s *Scottish Symphony*.

ANSWER: Hebrides Overture

[10] The *Hebrides Overture* and the *Scottish Symphony* were composed by this man, whose chamber pieces include a *String Octet in E-flat major*.

ANSWER: Felix Mendelssohn-Bartholdy

[10] The first movement of Mendelssohn’s *Reformation Symphony* twice uses this six-note motif, played by the strings with an interruption by the brass.

ANSWER: Dresden Amen

21. This country's makeshift "Red Devil" tanks were made of armored personnel carriers left over from World War II. For 10 points each:

[10] Name this republic led by Odumegwu Ojukwu. It fought to secede from the military government of Nigeria for its entire three-year existence.

ANSWER: Republic of **Biafra**

[10] The 1966 massacres of this largely-Christian ethnic group, who make up a majority in the southeastern lands which became Biafra, helped spur on the secession of Biafra.

ANSWER: **Igbo** people

[10] This Nigerian head of state accepted the surrender of Biafra in 1970. His military rule was overthrown in 1975 by Murtala Mohammed and the general Olusegun Obasanjo.

ANSWER: Yakubu **Gowon**