

# DRAGOON 2013

## Round 15 (Finals 2)

Questions by the University of Illinois at Urbana-Champaign

### Tossups

1. In this technique, neodymium-doped yttrium aluminum garnet lasers can be used to produce picosecond “pump” and “probe” pulses. Metal carbonyl complexes undergo a peak shift in this technique due to pi backbonding. The selection rule for this technique requires that the molecule to be analyzed undergo a change in dipole moment, making this technique complementary to (\*) Raman spectroscopy. The molecular motions involved in this technique can be modeled as a simple harmonic oscillator. Hydroxyl groups have a characteristic broad peak in this technique around 3300 to 3600 inverse centimeters. For 10 points, name this form of spectroscopy in which the vibrational modes of molecules are probed using light with a wavelength just larger than that of visible light.

ANSWER: infrared spectroscopy or IR

2. One artist from this country created the “Cathedral of Erotic Misery” and published his friend’s poem as the “Primeval Sonata.” Another artist from this country criticized his country’s war effort in a painting that shows a baby eating an axe, *Hurray! The Butter is All Gone!* This home country of John Heartfield is also the home of an artist who included five ships at varying distances that correspond with the (\*) age of man in his *The Stages of Life*. That artist also produced a painting showing a shipwreck in the Arctic, *The Sea of Ice*. This country was home to the Degenerate Art exhibition, which attacked the New Objectivity movement. For 10 points, name this home country of George Grosz and Max Beckmann, both of whom were mocked by Adolf Hitler.

ANSWER: Germany [or Deutschland]

3. The military of this colony attacked Corbitant to rescue captured allies including Hobomok. Many of this colony’s leaders moved from Leiden. A primary source describing this colony is *Mourt’s Relation* by Edward Winslow. One leader earned the nickname “Captain Shrimp” after arresting the drunken settlers of Merrymount. The assistant to the governor of this colony, John Alden, married Priscilla Mullins -- their relationship is romanticized in a (\*) Longfellow poem. This colony’s militia was run by Myles Standish, and it was governed by William Bradford. Its first members drew up a “compact” after failing to reach the Virginia Colony. For 10 points, name this colony aided by Squanto, whose pilgrims came on the *Mayflower*.

ANSWER: Plymouth Bay Colony [or New Plymouth]

4. In one scene in this book, the protagonist refers to Aristotle and Aquinas as “his lamps,” which causes a priest to speak about the lamp of Epictetus. In its third chapter, the protagonist has a dream of being in a desolate landscape surrounded by goatish monsters; after awakening from that dream and confessing in a chapel, he falls back to sleep and dreams of an (\*) altar covered in white flowers. Formative events in the title character’s youth include his time at Clongowes, where he is bullied by Nasty Roche. The title character’s aunt Dante and father Simon later argue about Charles Parnell. This *Kunstlerroman* begins with a story about “baby tuckoo” and a moocow. For 10 points, name this novel about the artistic development of Stephen Dedalus, written by James Joyce.

ANSWER: A Portrait of the Artist As a Young Man

5. The writing style of this book was investigated by J.C. Doderlein and J.G. Eichhorn, and their work was extended by Bernhard Duhm. This book claims that “the desert will rejoice and bloom like a rose,” and it emphasizes the suffering of one who will “bring justice to the nations” in one of four passages known as the “Servant Songs.” It’s not Matthew, but this book is the original source of the verse “The (\*) Virgin will conceive and give birth to a son, and will call him Immanuel.” The author of this book is traditionally identified as the son of Amoz; however, modern scholarship believes that he only wrote the first 39 chapters and that this book is actually the work of two or three different authors. For 10 points, name this longest of the prophetic books of the Hebrew Bible.

ANSWER: Book of Isaiah

6. Near this movie's end, its male lead gives a gun to a hobo in a blue suit, whom he had previously met in a subway. During instances of the title action, the protagonist's mother states that Sagittarius is ascendant, while the title figure herself repeatedly encounters a pack of nuns, converses with a man in a red shirt who stole a bike and sees a woman with a baby whose various (\*) fates as a kidnapper, a born-again pious soul, and a lottery winner are shown via flashforward. It uses animation to show sprints down a spiral staircase, all of which involve an encounter with a cruel neighbor and his vicious dog. For 10 points, three different scenarios of the title redhead's sprints to find 100,000 German marks in 20 minutes are presented in what Tom Twyker film?

ANSWER: Run Lola Run [or Lola Rennt]

7. A group of proteins which catalyze the transfer of this functional group bind to this group using a bromodomain and include the MYST and Gcn5 families. This functional group is removed from a certain class of proteins by the NAD<sup>+</sup> dependent protein Sir2. This is the smallest functional group which carnitine is capable of transferring across the mitochondrial membrane. The addition of this functional group at the lysine residues of (\*) histones is used to enhance transcription. This functional group is transferred to oxaloacetate to form citrate in the beginning of the Krebs cycle, which takes as one of its inputs this group bonded to coenzyme A. For 10 points, name this functional group with formula CH<sub>3</sub>CO which, in a famous neurotransmitter, is bonded to choline.

ANSWER: acetyl [or ethanoyl]

8. A member of this political party led his country's government when he debated with James Coyne, who resigned after increasing his pension. An affiliate of this party was accused of taking bribes from Karl-Heinz Schreiber in the Airbus Affair, while a different air company had the Avro Arrow cancelled by one leader of this party. The Wheat Board and a country bank were established during a less famous New Deal, overseen by this party's own (\*) R.B. Bennett. A proposal outlining a “distinct society” in the Meech Lake Accords was proposed by a Prime Minister from this party, a man who retired and was replaced by his Defence Minister Kim Campbell. For 10 points, name this political party of Brian Mulroney, John Diefenbaker, and Stephen Harper, who contrast with members of a certain country's Liberal Party.

ANSWER: Conservative Party of Canada [or Progressive Conservative Party; prompt “Conservative Party” or “Conservatives”; prompt “Tories”; accept equivalents like “Canadian Conservatives” or “Canadian Tories”]

9. In order to illustrate the principles of the universe, one character in this novel magically tosses a coin into the darkness and has it circle a firelight before it arrives back in his hand. That fatalistic character explains his note-taking of specimens with the line “whatever in creation exists without my knowledge exists without my consent.” Its main character travels with filibustering irregulars led by (\*) Captain White before he joins a posse that includes David Brown, a man who wears a necklace of human ears. After some convincing from Louis Toadvine, its protagonist travels with scalphunters who are lead by John Joe Glanton. For 10 points, the Kid travels with Judge Holden in what dark take on Westerns, which was written by Cormac McCarthy?

ANSWER: Blood Meridian: Or the Evening Redness in the West

10. Franklin Fisher introduced so-called folk theorems to model this situation. The Lerner index for agents in this situation is given by “negative one divided by  $n$  times  $e$ ,” where  $e$  is an agent’s demand curve. Most models of this situation differ in the assumption whether prices or quantities are set simultaneously. This situation features an intersection of the residual demand curve and the normal demand curve, such that demand curves are (\*) discontinuous, or kinked. Finding Nash equilibria for this model can be done via the Bertrand, Cournot and Stackelberg models when  $n=2$ . Like monopolistic competition, suppliers in this situation may collaborate to form a cartel. For 10 points, name this situation in which there are only a few sellers.

ANSWER: oligopoly [accept duopoly at any point]

11. One of this man’s sons was an ugly hunter known for carving a large rock sculpture of Cybele. Some sources state that his birth was probably the result of a relationship between Zeus and the nymph Plouto. This father of Broteas was both the maternal and paternal grandfather of a pair of children who murdered Chrysippus. Later, one of those grandchildren killed the other’s sons and fed them to him. This grandfather of (\*) Atreus and Thyestes had a daughter who turned to stone after her children were shot down. He also had a son who had his shoulder replaced with ivory after Demeter accidentally took a bite of him. For 10 points name this father of Niobe who was punished for feeding his son Pelops to the gods by being placed next to water and fruit he could never reach.

ANSWER: Tantalus

12. Dave “The Ghost” Casper and Charlie Sanders are Hall of Famers who played this position, while Chad Lewis made 3 Pro Bowls with the Eagles playing it. In 2013 a players of this position nicknamed the “Black Unicorn”, moved from the Giants to the Bears. Annually, an award named after John Mackey goes to the top college player at this position, an honor won by players like (\*) Tyler Eifert and Mercedes Lewis. In 2005, a Browns first round pick at this position crashed his motorcycle – his father dominated this position in the 80s with San Diego. Former league leaders who play it are Jimmy Graham and Rob Gronkowski, who set this position’s single season record for receiving yards. For 10 points, name this football position played by Tony Gonzalez and Antonio Gates.

ANSWER: Tight Ends

13. Its skewness is 2, which can be inferred from the fact its moment generating function is “ $p$  divided by the quantity  $p$  minus  $t$ ”, where  $p$  is its single parameter and  $t$  is time. Given a series of random variables characterized by this distribution, the sum of those random variables fits the Erlang Distribution. Though its variance is one over its parameter (\*) squared, its expected value is one over that parameter, which is often represented with a lambda. This distribution is the continuous analogue of the geometric distribution, which means that it too, is memoryless. For 10 points, name this probability distribution that is closely modeled by the function “ $e$  to the  $x$ .”

ANSWER: exponential distribution

14. The language spoken in this polity was transliterated by Francis Llewellyn Griffith using a barque stand, and evidence of extensive gold extraction in this polity has been discovered at the site of Hosh el-Geruf. According to legend, an invasion of this polity was repulsed by its legendary queen Candace. This kingdom moved its capital from Napata after defeat at the hands of (\*) Psammetichus II, and following that move, Apedemak became its principal deity. Its King Piye invaded its northern neighbor and founded what would become that neighbor’s twenty-fifth dynasty. This Kingdom itself eventually fell to Axum. With a capital at Meroe, for 10 points, name this ancient kingdom located between the 1st and 5th cataracts of the Nile, to the south of Egypt.

ANSWER: Kush [or Nubia, since that’s what the Egyptians called it, accept Meroë before mention]

15. In one work, this figure is introduced wearing a white veil, a green cape and a flame-red dress which all symbolize theological purity. In another work, this woman states that the dark spots on the moon are the result of different regions having different worth and thus shining more or less brightly. She ends one work by ordering a pair of men to drink from the river Eunoè. While at (\*) Primum Mobile, she states that the nine swirling clouds of fire are representative of nine orders of angels. We last see her joining the white rose that symbolizes the Virgin Mary, which leads her to be replaced by St. Bernard, who takes the narrator to the Empyrean. Earlier, she replaced Vergil as a guide on Mt. Purgatorio. For 10 points, name this woman beloved by Dante who acts as a tour guide through Paradise.

ANSWER: Beatrice "Bice" di Folco Portinari [accept any of the underlined portions.]

16. Lyotard stated that this quality is the "repetition of the new" and that humanity's constant exposure to it is a hallmark of postmodernism. Mental vigor and powerful language are two of the five characteristics of it according to a treatise by the ancient philosopher Longinus. The vastness of pandemonium in *Paradise Lost* and the wreckage of a ship in a painting by (\*) Turner are used as examples of this state in a book that argues this concept is derived from a contemplation of infinity or awe. In response to Edmund Burke, Kant argued that it occurs only when the faculties of contemplation have been overwhelmed. For 10 points, name this aesthetic quality derived from fear that is contrasted with the beautiful.

ANSWER: the sublime

17. This phenomenon causes an increase in resistivity due to electrons scattering in circular paths in weak localization. Inside the coherence length this phenomenon produces a speckle pattern. This phenomenon can be studied in the delayed choice and quantum eraser experiments. The LIGO detector uses this phenomenon to search for (\*) gravitational waves using an apparatus containing two long perpendicular arms and a beam splitter. The effect of this phenomenon is maximized when the path length difference between an observer and two in-phase sources is an integer or half integer multiple of the wavelength. For 10 points, name this phenomenon in which two waves superimpose to form a new wave with smaller or larger amplitude, which can be "constructive" or "destructive."

ANSWER: interference [accept "quantum interference"]

18. In the last movement of Brahms' first symphony, a *forte* passage for two of these instruments announces the initial modulation to C major. Duets for this instrument and piano include an *Elegie* by Francis Poulenc, and it's not the violin but Bach's first Brandenburg Concerto calls for two of these instruments, while the other five concerti call for none. Along with the clarinet, it represents the title character of (\*) Strauss's *Till Eulenspiegel*, and Strauss also wrote two concertos for it. One valve on this instrument allows players to switch from the F division to the B-flat division. Mozart composed four concertos for an earlier version of this instrument, three of which represent the wolf in *Peter and the Wolf*. For 10 points, name this brass instrument which, despite its common name, isn't really French.

ANSWER: (French) horn

19. Part 1 of this novel closes with the protagonist wanting to weep when he sees a couple on a train split-up after he thought they were on a long journey together. The protagonist of this book is reminded of his lover's feet when he puts his ear to a tea kettle and listens to its jingling bell. In its last pages, the Milky Way highlights the physical features of its two principle characters, who are standing in its streams of light. This novel's last major event is that of a (\*) cocoon warehouse catching on fire, where a woman is saved by her fiancé's ex-lover. Its main character is a dilettante that is working on a book about western ballet who has an affair with the *geisha* Komako. For 10 points, name this novel in which Shimamura's affair is juxtaposed with the title region, a work of Kawabata.

ANSWER: Snow Country [or Yukiguni]

20. This ruler employed the court historian Antonio Bonfini during the last years of the latter's life. This ruler requested that Pope Paul II establish the Universitas Istropolitana in what is now Bratislava. During one war, former supporters led by Archbishop Vitez plotted to depose this ruler, who is not Italian but invited many Italian humanists to his court and owned an eponymous library which was the largest outside Italy at the time. This leader, who hired full-time mercenaries for his (\*) 'Black Army,' fought a protracted war with George Podebrad of Bohemia on the pretext of returning Bohemia to Catholicism. Dying in 1490, for 10 points, name this son of Janos Hunyadi, a Hungarian king whose byname comes from the Raven on his family crest.  
ANSWER: Matthias Corvinus [or Matthias I or Matyas I Hunyadi]

21. One poet from this movement wrote of a man that "talks of reaping" and of a "Nocturne at Bethesda" in his collection *Personals*. A playwright from this movement depicted the Loving family in her play *Rachel*. The "dean" of this effort was a man who would eventually convert to Bahai, and who started a magazine to popularize Arna Bontemps and Angelina Weld Grimké. One poet from this movement demanded (\*) "let it not be like hogs" in discussing the title action of his poem "If We Must Die." It was spearheaded by Alain Locke, and included a poet who wrote "Life for me ain't been no crystal stair" at the conclusion of his poem "Mother to Son." For 10 points, name this modernist poetic movement spearheaded by Langston Hughes.  
ANSWER: Harlem Renaissance

## Bonuses

1. The singer of this work decides to join up with a street musician in the final song, called “Der Leiermann,” or “The Hurdy-Gurdy Man.” For 10 points each:

[10] Name this song cycle for voice and piano based on the poetry of Wilhelm Muller. It is sung from the point of view of a lovelorn wanderer who bids farewell to his beloved in the opening song “Gute Nacht.”

ANSWER: Winterreise [or Winter Journey]

[10] *Winterreise* was completed by this Austrian composer near the end of his life. He also wrote the “Trout” Quintet and the string quartet “Death and the Maiden.”

ANSWER: Franz Schubert

[10] Schubert’s last chamber work was a composition of this type in C major, his D. 956, which used an unusual instrumentation for its time.

ANSWER: string quintet [accept the “cello” quintet even though it’s not really for 5 cellos]

2. This leader was opposed by the May Brotherhood literary circle, led by romantic poet Esteban Echeverria. For 10 points each:

[10] Name this tyrant who ruled Argentina with an iron fist until his 1852 overthrow by a coalition of Brazilians, Uruguayans, and Argentine insurgents.

ANSWER: Juan Manuel de Rosas

[10] This other Argentine politician attacked Rosas in his polemic *Facundo*. In the 1860s, he served as ambassador to the U.S., where he studied the school system, and later adopted its ideas after becoming president in 1868.

ANSWER: Domingo Faustino Sarmiento

[10] Sarmiento entered office in the final days of this conflict, in which Brazil, Argentina, and Uruguay defeated the Paraguayan dictator Francisco Solano Lopez and Paraguay’s population was decimated.

ANSWER: War of the Triple Alliance

3. The protagonist of this novel is accused of having an affair with George Dorset while traveling on the yacht *Sabrina*. For 10 points each:

[10] Name this novel about the downfall of socialite Lily Bart, who wants to marry but can’t accept Lawrence Seldon because he doesn’t have enough money.

ANSWER: *The* House of Mirth

[10] *The House of Mirth* was the first major novel by this American writer who wrote about Newland Archer’s attraction to Countess Ellen Olenska in *The Age of Innocence*.

ANSWER: Edith Wharton

[10] This character from *The Age of Innocence* is the grandmother of Ellen Olenska. A powerful aristocrat, she attempts to re-introduce Ellen into high society after the latter’s separation from her husband.

ANSWER: Mrs. Manson Mingott [accept either]

4. For 10 points each, answer the following about the culture of a certain country.

[10] Joseph Needham asked why this country was overtaken by others even though it was technologically superior. Needham also wrote a multi-volume study of the technologies of this country.

ANSWER: China [or the People’s Republic of China, DO NOT ACCEPT “Republic of China”]

[10] The documentary *The Fall of Womenland* examines the so-called “walking marriages” of what Chinese peoples, whose children only live with their mothers, not their fathers?

ANSWER: Mosua or Na peoples

[10] The Mosua people are this type of society, in which mothers have control over moral codes and political decisions.

ANSWER: matriarchy

5. They are the most optically active phenomena in the universe and they emit x-ray and radio jets. For 10 points each:

[10] Name these objects which produce highly redshifted spectra and are often theorized to be supermassive black holes.

ANSWER: quasars [accept “quasi-stellar radio source”]

[10] Quasars are thought to be one of these structures, which are not present in starburst galaxies. These objects are present in both Type 1 and Type 2 Seyfert galaxies and are most likely supermassive black holes.

ANSWER: Active Galactic Nuclei

[10] These other active galactic nuclei vary in optical intensity even more than normal quasars. Most theories of them suggest that they are quasars with their relativistic jets aimed toward earth.

ANSWER: blazars

6. It concerns a man who is put on performance by his empresario, though never longer for forty days at a time. For 10 points each:

[10] Name this story by Kafka which describes a performer that puts on a show because he has been unable to find food that he enjoys in life.

ANSWER: “A Hunger Artist” or “Ein Hungerkünstler”

[10] Gregor Samsa awakens and finds he has been changed into an insect in this short novella by Kafka.

ANSWER: “The Metamorphosis” or “Die Verwandlung”

[10] This bizarre story by Kafka features one of the title talking animals offering the narrator a pair of rusted scissors, in the hopes that he will slit the throats of the second title group, thus ending the animosity between them.

ANSWER: “Jackals and Arabs” or “Schakale und Araber”

7. This event was preceded by the escape of one prisoner each from the Blue and Green factions, who took shelter in a sanctuary as the public clamored for their release. For 10 points each:

[10] Name this event which occurred in January 532, in which protesters set fire to the Constantinople Hippodrome but were cornered and defeated by Belisarius and Mundus.

ANSWER: Nika riots or revolt

[10] The Nika riots took place during the reign of this Byzantine emperor who presided over the compilation of a namesake law code. Procopius savagely attacked this man and his wife Theodora in the *Secret History*.

ANSWER: Justinian I [or Justinian the Great]

[10] The Justinian dynasty came to an end in 602 when this army officer usurped the throne from Maurice. This emperor was in turn overthrown by Heraclius, who beheaded him personally.

ANSWER: Flavius Phocas Augustus

8. His book *The Spirit of Terrorism*, argues that the Twin Towers committed suicide. For 10 points each:

[10] Name this French philosopher who discussed the implications of an empire constructing a map so perfect it destroys itself in his book *Simulation and Simulacra*. He wrote another book that contains his assertion “The Gulf War did not take place.”

ANSWER: Jean Baudrillard

[10] Baudrillard defined hyperreality as the mind’s response to an inauthentic object that presents itself as the authentic object, by discussing this American location. Eco’s *Travels in Hyperreality* also treats this place.

ANSWER: Disneyland [Obviously, do not accept Disneyland]

[10] Baudrillard’s *The Mirror of Production* essentially argues that this man’s theory of dialectical materialism is rooted too much in class struggles. This philosopher wrote *Capital*.

ANSWER: Karl Marx

9. It includes scenes from *The Passion of Christ* which surround a mirror on the back wall that shows the central figures receiving two guests. For 10 points each:

[10] Name this painting depicting a woman in green offering her hand to a man in a black coat. It was commissioned by a namesake Italian merchant and was painted by Van Eyck.

ANSWER: The *Arnolfini Wedding* [or The *Arnolfini Marriage*; or The *Arnolfini Portrait*; or *Portrait of Giovanni Arnolfini and his Wife*; basically accept anything that includes Arnolfini, his wife, and/or a wedding]

[10] In *The Arnolfini Wedding*, this kind of object lies on the window sill and the drawer below it. They symbolize fertility. Shocker.

ANSWER: fruit [They kind of look like peaches or oranges or grapefruits, so take that since no one is really certain, but they are obviously not bananas.]

[10] *The Arnolfini Wedding* is often said to be the first type of this type of painting, which focuses on everyday life. Chardin was a master of it.

ANSWER: genre painting

10. These entities form when an electron passing through a positively charged lattice causes the lattice to distort, creating a phonon, which attracts a second electron. For 10 points each:

[10] Name these bound states of electrons which disappear above a critical temperature.

ANSWER: Cooper pairs

[10] According to the BCS theory of this phenomenon, at very low temperatures, Cooper pairs will form and act like bosons, condensing into the same quantum state. This causes the resistance of the material undergoing this phenomenon to drop to zero.

ANSWER: superconductivity

[10] According to BCS theory, this quantity is approximately equal to 3.5 times Boltzmann's constant times the critical temperature. This quantity for a superconductor can be determined from the slope of the plot of the natural log of the heat capacity vs the inverse of temperature.

ANSWER: energy band gap [prompt on "energy gap"]

11. Newgate Prison was mostly destroyed during this event. For 10 points each:

[10] Name this violent anti-Catholic uprising which broke out in London in response to the Papists Act of 1778.

ANSWER: Gordon riots

[10] The Gordon riots took place during the reign of this British King while the American Revolutionary War was being fought overseas. His madness in later life has often been blamed on porphyria.

ANSWER: George III

[10] George III was a perpetual target of this Whig politician, who supported the American revolutionaries so much he dressed in their colors. His only major legislation was the Libel Act of 1792, but had more success as part of a coalition Government with Lord North.

ANSWER: Charles James Fox



12. Before the advent of air travel, this event featured the arrival of massive caravans, each carrying a resplendent *mahmal*, or litter. For 10 points each:

[10] Identify this pillar of Islam, the sacred pilgrimage to Mecca that all Muslims are expected to make at least once in their lifetime if able.

ANSWER: hajj

[10] During the hajj, pilgrims circumambulate the Ka'ba *this many times*. This is also the number of times Joshua marched around the walls of Jericho.

ANSWER: seven

[10] Another pillar of Islam is *zakat*, or almsgiving, which in many Muslim countries is instituted as a tax at the rate of 2.5 % of income, in contrast to this general tithe which charges 20 percent.

ANSWER: khums

13. For 10 points each, name these French Nobel Laureates.

[10] This Parnassian poet, the author of the un-translated *The Revolt of the Flowers* and *The Life*, was the first author to win the Nobel Prize in Literature.

ANSWER: René François Armand (Sully) Prudhomme

[10] This 1921 winner wrote the novel *Thaïs*, which inspired a Massenet opera, as well as *The Crime of Sylvester Bonnard* and *Penguin Island*.

ANSWER: Anatole France or Anatole Thibault

[10] This Catholic author wrote of Birgitte, who makes everyone around her miserable as she strives to become the model of morality in *Woman of the Pharisees*. He is better known for four novels about Therese, who poisons her husband.

ANSWER: François Charles Mauriac

14. A dimethylamino derivative of this compound is used to convert an acid anhydride to an amide in the Yamaguchi macrolactonization. For 10 points each:

[10] Name this compound, a positive ion of which is used in the Corey-Suggs reagent to create an aldehyde.

ANSWER: pyridine [accept pyridinium or C5H5N or C5H6N+]

[10] PCC generates an aldehyde from one of these compounds via an oxidation. These compounds can be synthesized in oxymercuration-reduction or hydroboration-oxidation reactions.

ANSWER: alcohols

[10] Pyridine is similar to this compound, except with one carbon replaced by a nitrogen. This simple aromatic compound has formula C<sub>6</sub>H<sub>6</sub>.

ANSWER: benzene

15. These figures are often sent down to distract or seduce ascetics, such as when Menaka was sent down to seduce Viswamitra to take away his sagely powers. For 10 points each:

[10] Name these Hindu cloud spirits which are often married to Gandharvas.

ANSWER: Apsaras

[10] The Apsaras emerged during this event, which also resulted in the creation of the moon, the release of halahala, and amrit, the delicious nectar of immortality.

ANSWER: Churning of the milk Ocean [Accept Samudra manthan]

[10] Another divine female that came from the churning of the ocean was this goddess, whose avatars included Sita and Radha.

ANSWER: Lakshmi [or Shree]

While framing the Ostend Manifesto, John Young Mason held this post. For 10 points each:

[10] Name this highest government post of Benjamin Franklin.

ANSWER: U.S. Ambassador to **France** [or U.S. Minister to **France**]

[10] The Ostend Manifesto called for the annexation of Cuba during this man's presidency. This successor of Millard Fillmore signed the Kansas-Nebraska Act of 1854.

ANSWER: Franklin **Pierce**

[10] John Randolph coined this term to refer to Northern politicians with Southern sympathies. This term applies to Pierce, Buchanan, and Stephen Douglas.

ANSWER: **dough faces** [do not accept "carpetbaggers"]

17. Answer the following about the geography of Maine, for 10 points each:

[10] Located in Baxter State Park, this peak is the tallest in Maine and marks the northern terminus of the Appalachian Trail.

ANSWER: Mt. **Katahdin**

[10] Maine's only national park, and the first one east of the Mississippi, is this one centered on Mt. Desert Island. Apart from the landscape, it is famed for its extensive carriage road system designed by John D. Rockefeller, Jr.

ANSWER: **Acadia** National Park

[10] The northeastern border between Maine and New Brunswick is partially formed by this river, the longest in the state, which enters Canada completely before emptying into the Bay of Fundy.

ANSWER: **St. John** River

18. A series of yellow umbrellas in this state complemented a group of blue umbrellas half-way around the world in Asia. For 10 points each:

[10] Name this state where one can find *Running Fence* and the Winchester Mystery House.

ANSWER: **California**

[10] Those umbrellas and *Running Fence* were artworks designed by Jean-Claude and this artist, who also wrapped a bunch of islands in nylon pink.

ANSWER: **Christo** [or Christo Vladimirov **Javacheff**]

[10] This other work of Christo consists of unfurled rolls of saffron colored fabric hanging from the namesake structure in Central Park. It was only on public display in 2005.

ANSWER: *The* **Gates**

19. N-acylhomoserine lactones and other autoinducers are used by Gram-negative bacteria to perform this process. For 10 points each:

[10] Name this process which allows bacteria to coordinate their individual gene expression patterns based on population density.

ANSWER: **quorum sensing**

[10] The bacterium *Vibrio fischeri* uses quorum sensing to cause this enzyme to only be transcribed when population density is large to conserve energy. This enzyme is used in a wide variety of organisms to produce bioluminescence.

ANSWER: **luciferase**

[10] Transcription of luciferase in *Vibrio fischeri* is controlled by the lux type of these groups of genes which are transcribed together. One of these groups of genes in *E. coli* is used to control lactose metabolism.

ANSWER: **operons**

20. For 10 points each, name some T.S. Eliot poems.

[10] Written at a young age, this brooding monologue begins with the phrase "Let us go then, you and I" and repeats the lines "In the room the women come and go / Talking of Michelangelo."

ANSWER: "The **Love Song of J. Alfred Prufrock**"

[10] This poem was written after Eliot converted to Catholicism and asks "Why should I mourn the vanished power of the usual reign?"

ANSWER: "**Ash Wednesday**"

[10] The speaker compares Christ to a tiger in this poem which begins "Here I am, an old man in a dry month."

ANSWER: "**Gerontion**"