16. Identify these terms from music theory for ten points each.
1. This term refers to any group of notes or pitches that are sounded simultaneously.
   Answer: a chord

2. This most basic type of chord consists of a root note, a major third, and a perfect fifth.
   Answer: a major triad

3. If you take any triad and add a note a third above the fifth, you will get this general type of chord.
   Answer: a seventh chord

17. Answer the following about electrical circuits for ten points each.
1. Usually depicted as triangles with four terminals, these devices have infinite input impedance and
   infinite open-loop gain, ideally.
   Answer: operational amplifiers (prompt on “amp”)

2. A simple analog integrator finds one of these devices hooked-up in a feedback position across an op amp.
   Answer: a capacitor

3. One of these devices can be made by a series cascade of op amps, since only the op amps corresponding
   the encoding of the applied voltage will be pulled-up.
   Answer: an analog-to-digital converter

18. Identify the following Gurus from Sikhism for ten points each.
1. The founder of Sikhism, his death caused Hindus and Muslims to argue over whether he should be
   cremated or buried.
   Answer: Guru Nanak Dev Ji

2. This fourth Guru and disciple of Guru Amar Das, whose name means “servant of god”, kept a long beard
   and composed the Lawan, a four-stanza hymn which is a component of a standard Sikh marriage ceremony.
   Answer: Guru Ram Das

3. The younger son of Guru Har Rai, he was appointed as Guru instead of Ram Rai, who was in collusion
   with the Mughals. He was only five when he became Guru.
   Answer: Guru Harkrishan

19. Identify the following from the collection “Twice-Told Tales” for ten points each.
1. The title “very singular man” takes a rose given to him by Sylvia Ward and brings it back to life in front
   of a few friends.
   Answer: Dr. Heidegger’s Experiment

2. According to this story, “the shattered pedestal of many a battle-monument” has brought on the
   questions “How came it there? Who reared it? And what means it?” These questions remain unanswered.
   Answer: Snow-Flakes

3. In the beginning, the frustrated Ralph Cramfield is disappointed, but he later figures-out that he is to reap
   the land around his mother’s home and rule the children in the village, and that his childhood friend is his
   true love.
   Answer: The Threefold Destiny

20. Answer the following about Cuban history for ten points each.
1. In 1520, this conquistador launched his invasion of Mexico from Cuba and against the orders of its
   governor, Velazquez.
   Answer: Hernando Cortez

2. This poet was one of the opposition leaders against Spain in the 1880’s and 1890’s before his 1895 death
   during an invasion of Cuban revolutionaries.
   Answer: Jose Martí

3. He has been the only other man besides Fidel Castro to be leader of Cuba, temporarily taking power in
   summer 2006.
   Answer: Raul Castro
11. Identify these intentional torts for ten points each.
1. This constitutes any unwanted bodily contact that is harmful or offensive.
   Answer: **battery**
2. In a classic example of this, a black female police officer was called a “jungle bunny” by her superior, lost sleep, and spent lots of time with a shrink as a result.
   Answer: **intentional infliction of emotional distress** (prompt on “emotional distress”)
3. When I act to cause an unwanted bodily contact or to create an apprehension of such contact and you in fact do apprehend such contact, I commit this tort.
   Answer: **assault**

12. Identify the following about Uruguay for ten points each.
1. Serving under Artigas, this future President of Uruguay was given a pension by the Argentine congress for his victory at the battle of Sarandi.
   Answer: Jose Fructuoso **Rivera**
2. This faction led by Manuel Oribe subjected Montevideo to a nine-year siege.
   Answer: los **Blancos** (accept the **Whites**)
3. He formed a legion in 1843 whose flag was a volcano on a black background and secured Uruguayan independence.
   Answer: Giuseppe **Garibaldi**

13. Name these things from organic chemistry that look better on paper than in the lab for ten points each.
1. This reaction that reduces a carbonyl compound all the way to an alkane is mighty convenient, except for the part with the boiling hydrazine.
   Answer: **Wolff-Kishner reduction**
2. This reaction that adds to the length of an aldose chain while preserving stereochemistry at the other carbons is rather handy, except for the part with the sodium cyanide.
   Answer: **Kiliani-Fischer synthesis**
3. This reagent sometimes abbreviated LAH turns up in many organic syntheses for its ability to reduce a wide variety of functional groups to alcohols. Don’t let it anywhere near water, though, or what’s left of you will be reaching for the Class D fire extinguisher.
   Answer: **lithium aluminum hydride** (or \( \text{LiAlH}_4 \))

14. Answer the following questions about a play for ten points each.
1. The title character marries her steward Antonio, so her brothers the Cardinal and the Duke of Calabria have both her and Antonio killed.
   Answer: **The Duchess of Malfi**
2. Name the author of **The Duchess of Malfi**.
   Answer: John **Webster**
3. The murder of this daughter of Cosimo de’ Medici and Eleanora di Toledo by her brothers because of infidelity is thought to have been one inspiration for Webster.
   Answer: Isabella de’ Medici Orsini

15. Identify the following twentieth-century African leaders for ten points each.
1. In 1949, he joined the Free Officers and, five years later, he led the ouster of Muhammad Naguib.
   Answer: Gamal Abdul **Nasser**
2. In September, 1960, President Joseph Kasavubu ousted this man.
   Answer: Patrice Emergy **Lumumba**
3. When Pasteur Bizimungu was named President of Rwanda, this dude became Vice President and defense minister. He was also the leader of the Rwandan Patriotic Front.
   Answer: Paul **Kagame**
6. Name these things about a Chinese novel for ten points each.

1. Attributed to Lanling Xiaoxiao Sheng, this work focuses on a corrupt merchant with a wholesale pharmaceutical business and harem.
   Answer: The Plum in the Golden Vase (or The Golden Lotus or Jingpingshei or Chin-p'ing-me or Chin P'ing Mei: The Adventurous History of Hsi Men and His Six Wives)

2. This merchant, whose concubines include Snow Moth and Golden Lotus, is the main character of The Plum in the Golden Vase.
   Answer: Hsi-Men Ch'ing (or West Gate)

3. The Plum in the Golden Vase is the almost doubtlessly the greatest novel produced during this Chinese Dynasty.
   Answer: the Ming Dynasty

7. Identify these related parts of the brain for ten points each.

1. This area of the frontal lobe is important for the articulation of language. Damage to it results in the inability to produce written or signed language or fluid speech, a fact elucidated by its namesake in 1861.
   Answer: Broca’s area (or the convolution of Broca)

2. This area is associated with short-term memory functions related to speech recognition. Its namesake aphasia results in speech that is fluid, but not meaningful.
   Answer: Wernicke’s area

3. Wernicke’s area and Broca’s area work together in most language tasks. They are connected by this bundle of nerve fibers, damage to which is called conduction aphasia.
   Answer: the arcuate fasciculus

8. Given a line in translation, identify the poem by Pablo Neruda for ten points each.

1. Canto Twelve addresses the title mountain: “Strike the old flints / To kindle ancient lamps, light up the whips / Glued to your wounds throughout the centuries / And light the axes gleaming with your blood.”
   Answer: “The Heights of Machu Picchu” (or “Alturas de Machu Picchu”)

2. “I wrote about time and water / I described morning and its bruised-colored metal / I wrote about the sky and the apple /Now I write of” the title location.
   Answer: “New Love Song of Stalingrad” (or “Nuevo Canto de Amor para Stalingrado”)

3. “If I could weep with fear in a solitary house / If I could take out my eyes and eat them / I would do it for your morning orange-tree voice / And for your poetry that comes forth shouting.”
   Answer: “An Ode to Federico Garcia Lorca” (accept “Una Oda a Federico García Lorca”)

9. Name these related works of art for ten points each.

1. Rubens is one artist who painted Hercules under the domination of this woman, the queen of Lydia, as punishment for his murder of Iphitus.
   Answer: Omphale

2. Paul Cezanne depicted this subject with several nude women tempting the titular saintly individual.
   Answer: The Temptation of St. Anthony

3. Another Cezanne works shows a woman with glowing red eyes on a bed adored by a large group of men.
   Answer: The Eternal Feminine (or La Femme Eternelle)

10. Identify the following ancient Greek philosophers for ten points each.

1. He was rebuked by Indians for “fawning on kings” and compared things to painted scenery and experiences of dreamers and madmen.
   Answer: Anaxarchus

2. When charged with neglecting the Eleusinian Mysteries, he replied, “If the mysteries are bad, no one should be initiated; and if they are good, they ought to be open to everyone.” He challenged Epictetus to give him a daughter for a wife when his bachelorhood was criticized.
   Answer: Demonax

3. A disciple of Parmenides who refuted the opponents of his teacher, his arguments are apparent paradoxes against multiplicity and motion.
   Answer: Zeno of Elea
1. Answer the following about some vampire-like creatures from world folklore for ten points each.

1. According to Jewish folklore, this first wife of Adam rejected his authority and took revenge by killing newborn male babies.
   Answer: Lilith

2. These beings from Hindu mythology are vampire-like evil spirits who take demonic possession of corpses and hang from trees in cemeteries.
   Answer: Vetala

3. These vampire-like Chinese creatures absorb qi rather than blood.
   Answer: hopping corpses (or fāngshī)

2. Given the plot, name the ancient Greek play for ten points each.

1. Members of the titular group include Hippomedon and Capaneus, but all of them died in battle, even Polyneices.
   Answer: The Seven Against Thebes

2. Its title translates as “The Litigants” and it concerns the child of Charisios and Pamphile, who is abandoned with trinkets. Two strangers then find the baby and argue over who the rightful owner is.
   Answer: Epitrepontes

3. The title of this Sophocles drama refers to the people in the chorus and the plot revolves around Deianeira and Hercules after Nessus’ deception.
   Answer: Trachiniae (or The Women of Trachis)

3. Identify these related concepts from real analysis for ten points each.

1. This type of sequence in a metric space has the property that the distance between consecutive elements in the sequence can be made arbitrarily small.
   Answer: a Cauchy sequence (prompt on “fundamental”)

2. A metric space in which every Cauchy sequence converges is given this name.
   Answer: complete

3. According to this theorem, a metric space is compact if and only if it is complete and bounded.
   Answer: the Heine-Borel theorem

4. Answer the following questions related to the trial of John Peter Zenger for ten points each.

1. It was this periodical published by Zenger that attacked Governor William Cosby.
   Answer: the New York Weekly Journal

2. The Weekly Journal published the decision that rendered Cosby’s suit against this Provincial Council member illegal, which led to no end of belly-aching from Cosby.
   Answer: Rip Van Dam

3. This justice and chief opponent of Cosby justified the publication of the decision, so Cosby had him removed from office.
   Answer: Lewis Morris

5. Name the Baroque artists from works for ten points.

1. Aurora and St. Luke Painting the Virgin.
   Answer: Il Guercino (or Giovanni Francisco Barbieri)

2. The Young Beggar and a notable Immaculate Conception.
   Answer: Bartolomé Esteban Murillo

3. The Allegory of Painting and Woman with a Water Jug.
   Answer: Jan Vermeer van Delft (or Johannes Vermeer van Delft)
17. One character in this work quotes the Heine play *Death and His Brother Sleep*, and the place that it takes place is often compared to a morgue or graveyard. A certain birthday party is allegorically compared to the feast of Belshazzar, and numerous references are made to ships or vessels as symbols of life dreams, arguably the focal point of this drama. The revelation that Evelyn was murdered results in the arrest of one character and indirectly in the suicide of Parritt, whose mother had an affair with Larry Slade. Slade, in turn, spends much of the play jeering at Hickey, a representation of the character in the title. For ten points, name this drama taking place in Harry Hope’s bar, written by Eugene O’Neill.

Answer: *The Iceman Cometh*

18. A card-carrying member of the NRA, this person accidentally shot her boyfriend in the foot while teaching him to fire a handgun. Her son came out as gay to emotionally destroy her, but she responded by inviting the family pastor to dinner to convince him of the immorality of his choice. She told the neighbors that she and her husband were taking tennis lessons to avoid telling them they were in marriage counseling. Her first husband Rex died of a heart attack and she married a possible murderer. For ten points, name the redheaded desperate housewife played by Marcia Cross.

Answer: *Bree van de Kamp* (or *Bree Hodge*; accept any underlined part)

19. Following a precipitous rise to the position of governor of Concepción, this person was defeated at Rancagua, which led to three years of exile. After his return, he appointed Lord Thomas Cochrane of Dundonald to a prominent position, but the success of his navy could not compensate for his notorious lack of political skill, so he was eventually deposed by Ramón Freire. The son of Ambrosio, a Viceroy of Peru, this man was described as “extremely brave but without any military knowledge” for his actions on Feb. 12, 1817. Those words describing his actions at Chacabuco were spoken by José de San Martín, who assisted him in liberating Chile. For ten points, name this Chilean-born liberator of Irish descent.

Answer: *Bernardo O’Higgins*

20. This artist depicts elaborate mantelpiece watching as a woman receive a haircut from a man with an impossible face in “The Coifing.” The title figure has a pleat of black hair to her knees in “The Ascension of St. Rose of Lima.” This person’s only professional training consisted of a few months at the Westminster School of Art. Inspired to become a full-time by Burne-Jones, his 1893 commission in to create an edition of *Le Morte d’Arthur* proved fruitful. His illustrations for *Lysistrata* are less famous than those for another play, *Salome*. For ten points name, name this English artist perhaps best-known for his illustrations in *The Yellow Book*, from which he was dismissed for his morbid eroticism and association with Oscar Wilde.

Answer: *Aubrey Beardsley*

21. This novel includes minor characters such as the secretary Marie Tomlinson and the minister of state Sam Okoli, from whom the protagonist borrows money to pay for an abortion. A patriarchal archetype is represented by Mr. Green, who uses the term “corrupt through and through” to describe the generalized African. The breakup with Clara and the death of the English-educated protagonist’s mother Hannah serve only to burden him further emotionally and financially, and so he uses his civil servant position to accept bribes. For ten points, name this novel about the downfall of Obi Okonkwo, considered a sequel to Achebe’s *Things Fall Apart*.

Answer: *No Longer At Ease*
12. In this work, one of the main characters makes fun of someone for not knowing that Sparafucile is the villain in *Rigoletto* and is incredulous that someone does not know what “strass” is. The first story told is about the architect and Irena and comprises a selective retelling of *Cat People*. In the dream sequence at the end, Marta is on an island and says that the dream is short and happy. The title comes from the second story told, which takes place in Nazi-occupied France. Valentin is in jail because he’s a political revolutionary whereas Molina is there because he’s gay. For ten points, name this 1976 novel by Manuel Puig.

Answer: *Kiss of the Spider Woman* (or *El beso de la mujer araña*)

13. This system of beliefs holds that, *ashe* or spiritual energy is found in everything. It is practiced by namesake celebrants, who are always two in number and are also known as *baba* and *iyal*. Among its deities are the *Guerreros*, a triad consisting of Elegba, Oshosi, and Ogun. It holds that Obatala is the father of all humanity. It holds the godhead unknowable, so the chief god is separated from the rest of pantheon called, which are known as Orishas. That chief deity is Olodumare or Olorun. For ten points, name this religion; a combination of Catholicism with Yoruba folk beliefs.

Answer: *Santería* (accept *La Religión Lucumí* or *La Regla de Ocha*)

14. The logic of this figure in sustaining the convictions of eleven men was applied by Chief Justice Vinson in *Smith v. Dennis*. He created the BPL formula to rule on negligence in torts cases. Irving Dillard published a number of this jurist’s speeches as *The Spirit of Liberty* in 1952. The recusal of several Justices led to his ruling on the Alcoa case. Made a U.S. District court judge at the age of thirty-seven, he was named to the Second Circuit Court of Appeals fifteen years later and, in 1939, he was made Chief Judge. He was seen as a natural to ascend to the Supreme Court, but Chief Justice Taft fought to keep the strong-minded jurist away from the high bench. For ten points, name this judge who understandably went by his second name, instead of his first name, Billings.

Answer: Billings Learned Hand

15. The text of this person’s first Halle lecture, “On the Goals and Problems of Metaphysics,” is lost, but notes from it indicate the maturity of his philosophy at that early point. This thinker demonstrated his concept of non-intentional units of consciousness with the example of pain. Frege’s criticism of this thinker’s 1891 work on the meaning of number caused him to turn away from psychologism. An important theme of his philosophy is intersubjectivity, which is discussed at length in his *Ideas*. His best-known work includes a discussion of how, after bracketing away empirical data, pure consciousness and ego are left. This philosopher wrote the *Philosophy of Arithmetic* and *Logical Investigations* and his *Ideas* is sometimes rendered as *Cartesian Meditations*. For ten points, name this originator of phenomenology.

Answer: Edmund *Husserl*

16. This person was rejected by Cunegonde Brillon in spite of his connections to the Masonic Loge des Neuf Soeurs. Illegitimate twice over, only the identities of his father and one grandfather are known and he himself eventually fathered an illegitimate daughter named Ellen on his own step-sister. West’s unfinished *Treaty of Paris* shows this man at center looking off to the left, the color on his black jacket un-filled-in. His appointment as Secretary to the Peace Commission proved a dead end and, in 1790, when his grandfather died, his father relieved him of the four thousand pounds sterling he had made in land speculation. For ten points, name this man, born in 1760 to Royal Governor of New Jersey William Franklin.

Answer: William Temple *Franklin* (prompt on “Frankin”; do not accept “William Franklin”)
6. A namesake wave of violence engulfed the region containing this city in April, 1948. Originally containing the words Santa Fé in its name, it is home to Avianca, the first airline in South America. This city sits between the Guadalupe and Monserrate Mountains and is also home to the University of Santo Tomas and the Xavier Pontifical University. Its six million residents live about 360 kilometers east of the Pacific Ocean and about 540 kilometers south of the Caribbean Sea. It became the capitol of a certain confederation in 1821. For ten points, name this city 8,660 feet above sea level; a South American city that is now capitol of the nation named for that “Great” confederation.

   Answer: Bogotá, Colombia

7. Recently adapted into an opera by William Bolcom, this work opens in Red Hook Brooklyn, as the narrator, a lawyer, compares himself to an attorney during the rise and fall of Julius Caesar. When Roldopho, a cousin of the protagonist, arrives, he performs the song “Paper Doll.” The second and final act opens with Rodolfo and Catherine alone until the main character comes in drunk, kisses his niece on the mouth, and then kisses Rodolfo. When Eddie Carbone finds out about the wedding, he calls Immigration, thus losing any respect in the community. For ten points, name this play dealing with corruption on the Brooklyn docks and Italian immigrants; a work of Arthur Miller.

   Answer: A View from the Bridge

8. A rare appearance of non-Hermitian operators in quantum mechanics is in the so-called algebraic method developed to solve his problem by analogy to factorization; that method uses the raising and lowering operators. Gaussian weighting are necessary for the orthonormality of the wave functions corresponding to a quantum mechanical system of this type, which are proportional to Hermite polynomials. For a normalized potential of this kind, the Schrödinger equation yields quantized energy levels proportional to $\hbar \omega$. The potential energy in a system of this kind depends on the square of the position and the force can be described by some generalization of using Hooke’s Law. For ten points, identify this important physical system that can be used classically to describe both a mass on a spring.

   Answer: simple harmonic oscillators (prompt on “harmonic” or “oscillator”)

9. This work contains several puns about smelling and “having a nose” for things and uses gold to symbolize not just wealth but control over the material world. A poisoned flower and poisoned rice are used to kill a number of characters, including the prostitute Bellamira and her pimp Pilia-Borza. A forged letter results in a duel between Mathias and Lodowick, the latter of whom is the son of the corrupt governor Ferneze, who seizes property in order to pay the Turks. Much of the action in this drama is set in motion by Ithamore or his master, whose daughter Abigail initially helps him but later joins a convent, much to the chagrin of the title character. For ten points, name this drama about a jackass merchant named Barabas, written by Christopher Marlowe.

   Answer: The Jew of Malta

10. If there exists a homomorphism from a ring $A$ to a ring $B$, then the quotient of $A$ with this object is isomorphic to $B$, and this is also an ideal of $A$. In a group homomorphism, it is the set of all elements mapped to the identity element; in a ring homomorphism, it consists of the elements mapped to zero. For a linear transformation, this is the same as the transformation’s null space while, for an integral operator, it gives the value of the operation on unity as it is an auxiliary function that always appears inside the integral. For ten points, identify this recurring concept in mathematics that shares its name with the fundamental code base of a computer operating system.

   Answer: a kernel

11. This person’s work Monsters of Grace is based on Rumi and joins adaptations of In the Penal Colony, Les Entants Terribles, and The Fall of the House of Usher among his chamber operas. Drastically underlooked are this man’s piano concerti Tirol and After Lewis and Clark. His first symphony is entitled “Low” and his Symphony No. 6 accompanies the poem “Plutonian Ode” by Allen Ginsberg. His film score credits include The Hours and The Truman Show. This composer is best known for such operas as Satyagraha, Akhnaten, and Einstein on the Beach. For ten points, name this composer who, despite his attempts to avoid classification as a minimalist, is the best-known minimalist.

   Answer: Philip Glass
1. With R.C. Retherford, the namesake of this phenomenon measured it in 1947 by using the splitting microwave lines and found its effect to be on the order of one tenth that of hyperfine structure. The effect responsible for it is the self-field interaction of electron, which seems to give a coupling of either zero or infinity. However, Bethe was able to obtain a physical value by the use of renormalization. Connected with it was the finding that the electron spin g-factor is very slightly larger than 2. For ten points, name this difference observed in the energy levels of two quantum states of the hydrogen atom; an effect whose explanation was an early victory for the theory of quantum electrodynamics.

   Answer: the **Lamb shift**

2. A visitor to the house of this figures’ parents recounts that, at the age of nine, he was able to perform a John Field concerto in spite of a complete lack of formal training. His parents paid for publication of the **Porte-Enseigne Polka** and he was unable to defray costs with such songs as “The Seminarist” and “Hopak.” Gogol’s *The Marriage* provides the setting for his *The Nursery*, which dates from around the same time as his first success and proceeds *Khovanshchina*. Ilya Repin’s portrait shows this composer at about the time he was working on the “Polovetsian Dances” from one of his three best-known works, those being *The Night on Bald Mountain*, *Pictures at an Exhibition*, and the opera *Prince Igor*. For ten points, name this member of the Five who spent his non-composing time soldiering and drinking.

   Answer: Modest Petrovich **Mussorgsky**

3. Considering this rule for various absorption-desorption reactions and parameterizing the occupancy fraction of a surface by temperature gives rise to the Langmuir isotherm. The naive form of it holds because the density of a solute is its activity to first order. Formulated in the 1860’s by Guldberg and Waage, this law of chemistry is based on ideas of geometric probability, stating that the probability of a reaction occurring is proportional to the probability of finding the reactants together. It is commonly given in its equilibrium form derived from noting that forward reaction rate equals the reverse reaction rate; in this case, it defines the equilibrium constant. For ten points, identify this law of chemical kinetics that gives the equilibrium constant as the concentrations of the products over the concentrations of the reactants.

   Answer: the law of **mass action** (prompt on “Law of Guldberg and Waage”)

4. The Bowring edition of this thinker’s works lacks his religious tracts, including the ones published under the pseudonym Gamliel Smith like *Not Paul But Jesus*. The recent publication “Offenses Against One’s Self” is quite posthumous. His interest in court-packing is bourn-out in his “Elements of the Art of Packing.” He co-founded the *Westminster Review* to promote what he called the “felicitic calculus” and his first book, published in 1776, was an attack on Blackstone’s *Commentaries on the Laws of England* known as the *Fragment on Government*, but of far more import is the *Introduction to Principles of Morals and Legislation*. For ten points, name this Utilitarian whose body is preserved in an “auto-icon” in University College, London.

   Answer: Jeremy **Bentham**

5. Shortly after this person’s government signed a treaty recognizing the Oder-Neisse Line, it was brought down by a revelation about Gunther Guillaume. This man’s *Essays, Reflections and Letters, 1933–1947* note that he was *in Exile* at that time. The grand coalition of 1966 gave him the vice-chancellorship as he had succeeded Erich Ollenhauer as SDP chairman. A strong proponent of the EEC, this statesman’s best-known policy manifested itself in the 1971 “Big Four” agreement and was known as Ostpolitik. For ten points, name this chancellor of West Germany from 1969 to 1974 and winner of the 1971 Nobel Peace Prize for his fostering of rapprochement with East Germany.

   Answer: Willy **Brandt** (or Herbert Ernst Karl **Frahm**)

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The Illinois Open 2006: Spite Burn
Tossups by Illinois (Donald Taylor, Kelly Tourdot, Scott Green, Micah Hodosh, Sulee Cao, Steven Canning) feat. “Illinois” (Sudheer Potru, Andrew Ullsperger)