



# ACADEMIC COMPETITION FEDERATION

2014 ACF NATIONALS  
PACKET ILLINOIS AND SOUTH CAROLINA

## TOSSUPS

1. In a review of one of this thinker's works, Bruce Ackerman proclaimed this man's vision "radically ahistorical" and analogized him to Dostoyevsky's Grand Inquisitor. A review by this thinker commends the non-contractarian political theory of Alexander Bickel's *The Morality of Consent*, and this thinker attacked the concept of "vertical integration," as an "economic misconception," in an early work concerned with the interpretation of an 1890 law. This thinker pursued that line of thinking about the Sherman Act in a 1978 work which argued that the title sort of laws should only protect consumers, rather than competitors, titled *The Antitrust Paradox*. He argued that there should "be no constitutional protection for any speech advocating the violation of law," in his article "Neutral Principles and Some First Amendment Problems," which also advocated for a "Madisonian system," a theory furthered by his 1990 book that summarized his thoughts on the "Madisonian problem," *The Tempting of America*. For 10 points, name this legal scholar who advocated a theory of original intent in Constitutional interpretation, and was denied confirmation to the Supreme Court in 1987 following a contentious hearing.

ANSWER: Robert Heron BORK

2. Spectrophotometers that split the beam in two, pass the two beams through a standard and a sample, then recombine the beam and focus it at a single detector are said to be double-beam in this quantity. The square root of this quantity multiplied by pi appears in the denominator of the Cottrell equation. The two different spin relaxation processes in NMR are named for, constants in this quantity. A form of mass analyzer accelerates all ions to the same kinetic energy, then passes them through a drift tube and makes a measurement of this quantity. It's not polarity, but in HPLC and GC, different components are separated based on their different values for the retention form of this quantity. NMR instruments typically make a measurement in this domain, then use a Fourier transform to convert to a frequency spectrum. For 10 points, kinetics is the study of how reactant concentrations change with respect to what variable?

ANSWER: TIME [accept more specific answers like RETENTION TIME, RELAXATION TIME, TIME-OF-FLIGHT; DOUBLE-BEAM IN TIME photoacoustic spectrometers]

3. One character in this play freaks out when she sees a hawk catch an eagle that offers no resistance while the hawk tears it apart. In this play a messenger gives a lengthy report chronicling the specific way figures such as Artembares, Arabus, Tharybis, and Tenagon were killed. It begins with the female lead describing a haunting dream in which her son places the heads of two women in the yoke of a chariot, after which the woman wearing Asian dress submits while the one in Greek robes overturns the chariot. Later in this play, the main female character makes a sacrifice at a tomb to summon her husband's ghost, who chastises his son for trying to build a bridge to span the Hellespont. This play was the second part of a lost trilogy that included plays titled *Phineus* and *Glaucus*, and it begins in Susa where Queen Atossa nervously awaits news about the battle of Salamis. This was the only Greek drama where real historical figures appear on stage. For 10 points, name this Aeschylus play about Xerxes's failed invasion of Greece.

ANSWER: The PERSIANS [or PERSAI; or PERSAE]

4. In order to resolve this conflict, a six-member tribunal was created including men like George Turner, Louis Jetté, and Allen Aylesworth; the lone member from Great Britain, Lord Alverstone, was supposed to act as a neutral judge to resolve the claims of the other two parties. In the course of this controversy, threats were made to station troops at the port towns of Dyea and Skagway, and the parties argued over different translations of French terms contained in the so-called "Treaty of St. Petersburg" of 1825. The passage of the Hay-Herbert Treaty tried to resolve this dispute, which was fought over ownership of the Portland Channel and its islands, and the Lynn Channel. The American diplomats Henry Cabot Lodge and Elihu Root

fought to ensure access to the goldfields in the interior regions, in the wake of the Klondike gold rush. For 10 points, name this dispute between the U.S. and Canada resolved in 1903, which was about defining the border of a U.S. state known as “Seward’s Folly.”

ANSWER: ALASKAN boundary dispute [or ALASKAN border question; accept equivalents that indicate a conflict over the boundary of ALASKA between the U.S., Canada, and Britain; only ALASKA is required]

5. This being came to the rescue of a dragon who’d been caught by a fisherman and, as a reward, received a pearl that constantly emitted light. This being pretended to be chased by three pirates and jumped off a cliff in order to test a crippled boy, who became this being’s disciple because he also jumped off the cliff, proving his strong will. After being taken to hell by a magic tiger, an incarnation of this being turns hell into paradise by planting flowers and playing music, so that being is sent back to Fragrant Mountain. That incarnation gave an eye and an arm to cure her father’s jaundice. This teacher of Shanzai is shown holding a willow branch or the lotus throne. Along with Mahastha-maprapta, she accompanies the Amitabha Buddha. This bodhisattva derives from Avalokitesvara, who grows eleven heads and 1,000 arms to help those in need. For 10 points, name this East Asian bodhisattva of compassion.

ANSWER: GUANYIN [or Bodhisattva GUANYIN; or GUĀNYĪN Púsà or GUANSHIYIN; or KANNON; prompt on “Avalokitesvara” before mentioned; prompt on “Miaoshan”]

6. A damaged wall fresco discovered in 1873 sees this figure “presenting gifts to a young woman.” In a work notably painted on a horizontal canvas, this figure appears fully clothed reclining on the left while an unconscious man, dressed only in a loin-cloth, on the right is being tormented by a band of satyrs who steal his lance and blow a hunting horn into his ear. This figure’s most famous representation was based on the classical statue labeled “Pudica” or “modest.” A wasp hive referencing the coat of arms of the Vespucci family in one depiction of this figure leads some scholars to hypothesize Simonetta Vespucci was the model. In another painting, this mythological figure stands in front of a myrtle tree — a symbol of hers — in the middle of an orange grove where three women in diaphanous robes dance a roundel. In a different painting, Hora drapes a cloak around this goddess, who is being blown ashore by Zephyrus as she stands naked on a seashell. For 10 points, name this Roman goddess whose birth was depicted by Botticelli.

ANSWER: Botticelli’s depictions of VENUS [or APHRODITE]

7. The genus *Equisetum* is the only extant representative of the sphenopsids which dominated the plant life of this geologic period, along with the lycopods and cordaites. During this period’s Tournaisian epoch, the first terrestrial tetrapods appeared. The majority of Romer’s gap, a lacuna in tetrapod fossil records, lies in this period. Both the Hercynian mountains and the Urals were formed in this period, the former when Laurasia collided with Gondwana in its latter stages. The amniote egg evolved during this period, as did giant insects, possibly as a result of the spike in oxygen concentration in the atmosphere during this period and its successor. A rainforest collapse took place during this period, which is separated into the Mississippian and Pennsylvanian divisions, and that collapse resulted in the formation of the material that gives this period its name. For 10 points, identify this period following the Devonian and preceding the Permian, which saw the formation of many coal beds.

ANSWER: CARBONIFEROUS period

8. After this leader banned all opposition parties, United States ambassador Smith Hempstone repeatedly tried to get him to return to a multi-party state. After a group of air force officers led a coup against this man, Hezekiah Ochuka ruled his country for a total of 6 hours before escaping. Sometimes known as the “Professor of Politics,” he led his government through the ruinous Goldenberg Scandal, which depleted his nation’s bank by subsidizing private gold exports. Late in his reign, he appointed paleontologist Richard Leakey as the head of his civil service. When he became president, his predecessor’s wife “Mama Ngina” continued to serve as first lady. After ruling for 24 years, this leader was succeeded by the National Rainbow Coalition led by Mwai Kibaki in 2002, which was a remnant of this man’s KANU party. For 10 points, name this second president of Kenya, the successor to Jomo Kenyatta.

ANSWER: Daniel Toroitich ARAP MOI [prompt on the “Professor of Politics” before mentioned]

9. One character in this novel writes the names Edison and “Motsart” on a wall in green and red chalk, then writes her initials and the word “pussy” under them. That character from this novel contains parts of her thoughts in an “inside room” and is last seen eating a chocolate sundae and drinking beer while imagining herself defending a piano from men trying to repossess

it. A character in this novel often argues with the preacher Simms at the carnival where he works, and argues about Marxism with a black doctor who named his son Karl Marx. In this novel, Bubber runs away from home after shooting Baby Wilson with a BB gun when his sister scares him with stories about jail, and the hefty male owner of the New York Café locks himself in his cellar at night to try on his dead wife Alice's perfume and fantasize about being a mother. The central character of this novel befriends the black doctor Benedict Copeland, but shoots himself after the death of his insane Greek friend Spiros Antonopoulos. For 10 points, name this novel about four characters who confide in the deaf mute John Singer, written by Carson McCullers.

ANSWER: The HEART IS A LONELY HUNTER

10. In a lecture which began as rebuttal to one Hieronymus Lorm, this philosopher argued that the history of philosophy cycles through periods composed of four phases, beginning with ascendancy, and declining into pragmatic concerns, skepticism, and mysticism. In a 1982 paper, Roderick Chisholm argued that this thinker's "non-propositional" theory of judgment was able to deal with compound judgments. Oskar Kraus and Alfred Kastil were among the students that this man attracted to his doctrine that the *entia rationis* were not real; that doctrine, given its name by Tadeusz Kotarbinski, was called "reism." This teacher of Anton Marty, Carl Stumpf, and Alexius Meinong formulated a distinction between "genetic psychology" and "psychognosy" in his appropriately titled *Descriptive Psychology*, and insisted that "every psychic phenomenon contains something as an object within itself," in his most famous work, *Psychology from an Empirical Standpoint*. For 10 points, identify this originator of phenomenology who developed the concept of "aboutness" or "intentionality," and taught Edmund Husserl.

ANSWER: Franz BRENTANO

11. The Orchomenian king Eteocles dedicated a temple to these deities in which they were worshipped as stones falling from heaven. The river Cephissus was sacred to these deities, who are sometimes considered the progeny of Helios and Aegle. As a reward for helping Zeus fall asleep, one of them was given by Hera as a bride to Hypnos. Another of them gave Tiresias a full head of hair as a reward for siding with her in a dispute. Occasional members of this group include Hegemone, Phaenna, Pasithea, and Cleta, the latter of whom was the Spartan replacement for a deity who lends her name to an adjective indicating abundance. A garment that they crafted was damaged in the arm thanks to a spear strike by Diomedes. Because Homer listed a wife of Hephaestus named Charis as a member of this group, they are sometimes known as the Charites. This group comprises Aglaea, Euphrosyne, and Thalia. For 10 points, name these goddesses of beauty in the retinue of Aphrodite.

ANSWER: GRACES [accept CHARITES before mentioned]

12. Examples of these objects with opposite their normal polarity can be created using reverse-phase evaporation. In an assay testing their function, one set of them is labeled with ANTS, another with DPX, and a third with both. Very small examples of them can be synthesized by hydration of compounds such as DPPC or DPPG followed by either extrusion through a polycarbonate membrane or sonication. The immune system can avoid detecting these objects if they are coated with polyethylene glycol to produce the "stealth" variety. Initially developed by Alec Bangham, these objects can be divided into LMVs and UMVs depending on whether they are unilamellar or multilamellar. Amphotericin B and doxorubicin are often presented in this form. Unlike micelles, these objects possess a central aqueous cavity surrounded by a bilayer. For 10 points, name these artificial phospholipid vesicles used in various drug delivery applications.

ANSWER: LIPOSOMES [prompt on "vesicles" before given; prompt on "phospholipid" before mentioned; prompt on "lipid" or "lipid bilayer" before "artificial" is read]

13. The second piece in this set builds up to a climax in the key of E flat major, but then veers into a surprising ending on the notes F and B. Another piece in this collection has the right hand alternate the notes E and D-sharp before the start of the B section, which is introduced with the soft pedal. Near the end of the first piece in this set, a bunch of high Cs represents the call of a nightingale; that piece includes a reflective D-flat major middle section, but begins way differently, two octaves below middle C in 3/8 with E played twelve times, then the dyad E-B twelve times, then triad E-B-D six times. Though it is not part of this set, the composer's S.217 is a solo piano "polka" with the same program. The most famous one is a setting of a poem by Nikolaus Lenau, and is alternately known as "The Dance in the Village Inn." The incomplete fourth and last piece in this collection is sometimes replaced in recordings by the *Bagatelle sans tonalite*. For 10 points, name these Franz Liszt pieces inspired by the devil from *Faust*.

ANSWER: MEPHISTO WALTZES

14. This politician coined the term “Selsdon Man” to ridicule his opponent’s free-market policies, which he considered primitive. During his administration, Leo Abse secured passage of the Sexual Offenses Act, which decriminalized homosexual acts between consenting men. In one speech, this man assured listeners that “the pound in your pocket” has not lost its value, despite a 14-percent devaluation of sterling. He became the leader of his party after the death of Hugh Gaitskell, who many conspiracy theorists believe was poisoned, based on the allegations of Peter Wright and Anatoliy Golitsyn that this man was being recruited as a KGB agent. He took his highest office by defeating Alec Douglas-Home, and then served his second non-consecutive term after the administration of Edward Heath. For 10 points, name this Labour Prime Minister of Britain who served from 1964 to 1970, and then from 1974 to 1976.

ANSWER: Harold WILSON

15. In a 1962 performance of this piece, Coleman Hawkins delivered a long harmonically advanced solo while the original composer sat at the piano. This piece is extended to fifteen minutes and seventeen choruses, and goes through several meter shifts, including one in the then-unusual waltz time, in the later LP *Masterpieces by [its composer]*. Claiming that he had learned the main theme from his teacher Lorenzo Tio, Barney Bigard sued to get a share of the royalties from this piece. This was the first piece in which the composer used overtones of two of the instruments to generate a “mike-tone,” creating the illusion of another instrument. The melody of this piece is scored for a muted trumpet, a muted trombone, and a clarinet playing in the low register. Irving Mills wrote the lyrics for this track, which was originally titled “Dreamy Blues.” For 10 points, name this standard introduced in 1930 by Duke Ellington.

ANSWER: “MOOD INDIGO” [accept “DREAMY BLUES” before it is read]

16. This author declared “I scorn all earthly dung-bred scarabes” at the end of his sonnet “Methinks I see some crooked mimic jeer.” A thieving Parson enters into a Robin Hood-esque exchange about the morality of stealing with a disguised king in a play by this author, a thinly veiled attack on the Lords Cobham. Because it included a blasphemous rendition of the *Song of Solomon*, most copies of this author’s first book were seized and destroyed under the Archbishop of Canterbury’s orders. The sixty-first poem in his sonnet sequence *Idea* begins “Since there’s no help, come let us kiss and part.” This author’s unfinished masterwork, which is illustrated with the maps of William Hole and annotated with historical commentary by John Selden, is a topographical poem that describes every county in Great Britain and Wales. For 10 points, name this Elizabethan poet known for the massive *Poly-Olbion*.

ANSWER: Michael DRAYTON

17. In one speech, this man referred to “two bodies, one lean and wasted but with a head, and the other headless but strong and large.” He adopted the slogan of “*tabulae novae*” to call for a general cancellation of debt. A popular belief that he washed his bloody hands at the sacred fountain of Apollo after cutting a man’s head off at a tomb led him to be attacked in a speech called “*In Toga Candida*.” He tried to gain the help of the Allobroges tribe, but his emissaries were intercepted on the Milvian Bridge, and the Allobroges betrayed him. After his escape route to Gaul was blocked by Metellus Celer, he was defeated and killed by forces under Marcus Petreius at the Battle of Pistoria. Prior to that, he withdrew from Rome after the Senate granted emergency power to a man who gave four orations against him. For 10 points, name this Roman senator prosecuted by Cicero for conspiring to revolt against the Roman republic.

ANSWER: CATILINE [or Lucius Sergius CATILINA]

18. The Bennett pinch is the simplest non-trivial equilibrium derivable from this formalism, and when axial symmetry is present, a general equilibrium is found by numerically solving the Grad-Shafranov equation. Under this formalism, when the E-cross-B drift dominates and the medium under analysis contains particles undergoing gyromotion, the ideal Ohm’s Law can be derived. This formalism is used to derive the existence of transversely propagating incompressible Alfvén waves in the medium being analyzed. This formalism adds a term equal to the cross product of the current with the magnetic field to the ordinary fluid equation of motion, and is generally less accurate but more tractable than the Vlasov formalism. For 10 points, identify this theoretical framework which treats plasma interacting with a magnetic field as a continuous fluid medium.

ANSWER: MagnetoHydroDynamics

19. This work compares the “rigor” and “width” of the education in the US, Britain, and Russia and claims only the Swedes do it right but “are handicapped by their practical need to devote an inordinate amount of time to foreign languages.” This work

repeatedly describes a group of people with the phrase “they had the future in their bones” because “without thinking they respond alike.” It berates scholars for ignoring the positive social benefits arising from the Industrial Revolution in its second chapter “Intellectuals as Natural Luddites.” This work compares the muted tone of Eliot’s line “this is the way the world ends, not with a bang but a whimper” with another person brashly responding to the question “Lucky fellow, always on the crest of the wave?” with the boast, “Well, I made the wave, didn’t I?” Delivered as the 1959 Rede Lecture, it famously claims being able to describe the Second Law of Thermodynamics is equivalent to having read Shakespeare. For 10 points, name this lecture by C. P. Snow about the gap between literary and scientific intellectuals.

ANSWER: “The TWO CULTURES” [accept 1959 REDE LECTURE before mentioned]

20. When spying on his mother, one character in this novel vomits when he realizes that what he presumed was her natural black hair underneath a blonde wig was actually just another wig. Its protagonist has the tendency to add the letters “wh” to the beginnings of words whenever he is mocking his own thoughts. Early in this novel, several characters praise a black man who raped the main female character during her younger years in a tenement. Its protagonist accesses the house of his doppelganger by building a makeshift bridge between their windows. This novel’s protagonist witnesses a car crash during the rainy night that he walks out on his lover, and later finds employment in a circus thanks to his old friend Manolo Traveler. Gregory Rabassa won a National Book Award for his translation of this book, in which short speculations by the writer Morelli are interspersed with conversations with Ossip Gregorovius. Its protagonist leaves Paris for Buenos Aires after the disappearance of his lover La Maga. For 10 points, name this novel about Horacio Oliveira, which can be read sequentially or by starting at Chapter 73, written by Julio Cortazar.

ANSWER: HOPSCOTCH [or RAYUELA]

21. This element’s hexafluoride has 12 electrons in the bonding sigma orbitals and no electrons in the antibonding T<sub>2g</sub> [“T-sub-two-g”] or E<sub>g</sub> [“E-sub-g”] orbitals, making it an exception to the 18-electron rule. Boron trifluoride or a Lewis acid in which this metal is the center atom catalyzes the Mukaiyama aldol reaction. Two methane and two cyclopentadienyl groups coordinate to an atom of this element in a compound commonly used to convert carbonyls to terminal alkenes, named the Petasis reagent. Two cyclopentadienyl groups and two bridging groups are bound to it in Tebbe’s reagent. Chlorides of this element, or of the two elements below it in the periodic table, zirconium and hafnium, are used as Ziegler-Natta catalysts. The Hunter and Kroll processes are used to extract this metal from ores such as rutile. For 10 points, name this transition metal which is just as strong as steel, with atomic number 22.

ANSWER: TITANIUM

## BONUSES

1. Answer stuff about the technology of the Iberian shipping trade during the age of sea exploration, for 10 points each.

[10] This German cartographer who worked under King John II of Portugal is credited as the inventor of the globe, which he perfected after returning to his hometown of Nuremberg. He called his creation the Erdapfel.

ANSWER: Martin BEHAIM

[10] Behaim and the Portuguese explorers perfected the use of this angle and altitude-measuring tool during their journeys down the African coast, though the device is often credited to the Greek astronomer Hipparchus. One of them is named for Geoffrey Chaucer.

ANSWER: ASTROLABE

[10] The Spanish and Portuguese navies relied heavily on these warships, an improvement upon the caravel, for much of their trade. Spain's "Manila" ships of this type made annual trips from Mexico beginning in 1565 to supply the colonies in the Philippines.

ANSWER: GALLEONS

2. Gerard Genette coined the terms duration, frequency, and mood as part of a new critical vocabulary for this field. For 10 points each;

[10] Name this literary discipline whose name was coined by Tzvetan Todorov. It studies the formal system of rules governing the discourse and syntax of stories.

ANSWER: NARRATOLOGY [or NARRATOLOGIE]

[10] Genette coined the term focalization to track the shifting perspective of the narrative that typically occurs during this type of detached narration, whose varieties include limited, objective, and omniscient.

ANSWER: THIRD-PERSON

[10] Genette's narratology built on the work of Russian Formalists, who divided narratives between the actual chronology of events in the story called the "fabula" and this term referring to the way the story is organized.

ANSWER: SYUZHET

3. As  $x$  approaches infinity, this function approaches  $x$  over the natural log of  $x$ . For 10 points each:

[10] Name this function symbolized  $\pi$ , which represents the number of prime numbers less than or equal to  $x$ .

ANSWER: Riemann's PRIME COUNTING function

[10] The prime counting function can be expressed as a sum of these functions. This function is zero when its argument is negative and one when its argument is positive, and its derivative is the Dirac delta function.

ANSWER: unit STEP function [or HEAVISIDE step function]

[10] According to this other statement about the distribution of prime numbers, for every integer  $n$  greater than or equal to 1, there exists a prime  $p$  that is strictly between  $n$  and 2 times  $n$ .

ANSWER: BERTRAND's postulate

4. First described in its namesake's article titled "Studies of Interference in Serial Verbal Reactions," this task involves being presented with a color word that is written in text of a different color, and being asked to give the color the word denotes. For 10 points each:

[10] Identify this standard task of experimental psychology. The aforementioned serial interference results in a decreased reaction time on this task.

ANSWER: STROOP task

[10] The Stroop task is typically employed in studies of this human capacity to selectively direct concentration to particular cognitive tasks.

ANSWER: ATTENTION

[10] Another paradigm in Stroop studies is this technique, which involves briefly presenting a first stimulus before the second stimulus that is to be responded to is presented. Interference due to this phenomenon is also measured from reaction time.

ANSWER: PRIMING [accept word forms]

5. This man's attempt to proffer a ring of Odin and eleven golden apples fails, but the mention of his master's sword causes

the daughter of Gymir to change her mind. For 10 points each:

[10] Name this loyal messenger, the hero of an Eddic poem, who is sent to secure a marriage to Gerd.

ANSWER: SKIRNIR

[10] This Norse fertility god and brother of Freyja sends his servant Skirnir to obtain Gerd's hand in marriage.

ANSWER: FREYR

[10] Skirnir bizarrely claims that if Gerd accepts Frey's proposal, then she will become more famous than this god, the resident of Himinbjorg.

ANSWER: HEIMDALLR

6. The Kleobis and Biton statues at the Delphi Archaeological Museum are examples of this type of sculpture. For 10 points each:

[10] Name this generic term for sculptures of nude male youth in Archaic Greece, which usually appear free-standing, beardless, and in a frontal pose.

ANSWER: KOUROS [or KOUROI; do not accept "kore" or "koure," which are nude women]

[10] The most famous kouros is probably this statue, credited as the first surviving example of contrapposto. It's named after the Athenian sculptor who taught Myron.

ANSWER: KRITIOS BOY [or KRITIAN BOY]

[10] Many examples of kouros were discovered at this Greek god's shrine at Delphi. A statue with the epithet "Sauroktonos" shows him catching a lizard, and sculptures of him dubbed "Citharoedus" depict him with a lyre.

ANSWER: APOLLO

7. This man gained popular support because he opposed the influence of the rabi-blancos, or "white tails," a derogatory term for the wealthy light-skinned people of European descent in his country. For 10 points each:

[10] Name this man who served as dictator of Panama from 1968 through 1981. He signed some treaties with Jimmy Carter in 1977, which transferred control of the Panama Canal to Panama through a process ending in 1999.

ANSWER: Omar TORRIJOS [Omar Efraim TORRIJOS Herrera]

[10] This man became chief of military intelligence under Torrijos after assisting his rise to power. Later, this man became ruler of Panama, but was ousted by Operation Just Cause, an invasion by the United States under the elder George Bush in 1989.

ANSWER: Manuel NORIEGA

[10] Omar Torrijos was a fishing buddy of this American celebrity. Torrijos gifted the private Panamanian island of Taborcillo to this man, reportedly after a night of drinking with both him and Graham Greene.

ANSWER: John WAYNE [or Marion Mitchell MORRISON; or Marion Robert MORRISON]

8. In Feynman slash notation, this equation can be expressed simply as  $i$  times the slashed covariant derivative of the wavefunction minus mass times the wavefunction equals zero. For 10 points each:

[10] Name this equation obtained by its British creator by factoring the relativistic energy-momentum relation then substituting in the quantum operators for energy and momentum. It describes the quantum behavior of relativistic particles with spin one-half.

ANSWER: DIRAC equation

[10] This operation applied to two of the gamma matrices equals two times the Minkowski metric tensor, a relation vital in defining the algebra of the gamma matrices.

ANSWER: ANTICOMMUTATOR [do NOT accept or prompt on just "commutator"]

[10] The fifth gamma matrix is useful in discussions of this property, the difference between a particle and its mirror image. Parity-invariant theories are said to possess this type of symmetry.

ANSWER: CHIRALITY

9. A writer in this novel feels terrified going inside houses because she believes that "in classical writing, everything happens outside." For 10 points each:

[10] Name this Amitav Ghosh novel that closes in front of Aung San Suu Kyi's house, but is mostly concerned with the love story between Rajkumar and Dolly, one of the attendants to Supayalat, the last queen of Burma.

ANSWER: The GLASS PALACE

[10] *The Glass Palace* is atypical among Amitav Ghosh's novels since it's not about speakers of this language, who are depicted in his book appropriately titled *The Calcutta Chromosome*. Rabindranath Tagore was a heavyweight in the early 20th century literary renaissance experienced by this language.

ANSWER: BANGLA [or BENGALI]

[10] Ghosh's novel *The Hungry Tide* depicts rampaging animals of this kind in the Sunderbans. Jim Corbett extensively hunted and wrote about these animals, one of whom hides behind a door in an arena in an 1882 short story.

ANSWER: Bengal TIGERS [or Panthera TIGRIS]

10. This theory's formulator defined its fundamental component as "a multicultural territorial division of labor" and as being held together "by tension and fear." For 10 points each:

[10] Identify this theory, whose formulator was heavily influenced by the Annales school, whose approach he combined with Marxism and dependency theory. According to this theory, interdependent economic relations result in the formation of a core and a periphery.

ANSWER: WORLD SYSTEMS theory

[10] World systems theory was described in the appropriately titled 1976 book *The Modern World System* by this American sociologist.

ANSWER: Immanuel WALLERSTEIN

[10] Wallerstein was strongly influenced in the construction of world systems theory by this post-colonial thinker, who authored *Black Skin, White Masks* and *The Wretched of the Earth*.

ANSWER: Frantz Omar FANON

11. Answer the following about Jewish marriage customs, for 10 points each.

[10] In order to obtain a divorce, a husband must present this document to his wife, and in many denominations the wife's signature is also required.

ANSWER: GET [or SEFER K'RITUT]

[10] A child who is born from certain forbidden relationships, such as an unmarried man and a woman married to another, is given this status. Though not synonymous with illegitimacy, this status prevents one from entering the congregation or marrying anyone but another who shares this status.

ANSWER: MAMZERim

[10] The most recognizable custom at Jewish weddings is when the groom smashes one of these with his foot, thus completing the ceremony.

ANSWER: a GLASS

12. The losing commander of this battle, Mariano Arista, was retreating from the Battle of Palo Alto, which occurred one day earlier, and took up a position between Matamoros and Port Isabel. For 10 points each:

[10] Name this May 1846 battle where an outnumbered Zachary Taylor defeated Arista and forced his army out of the name-sake dry streambed.

ANSWER: Battle of RESACA DE LA PALMA [or RESACA DE GUERRERO]

[10] Composed of European expats and American deserters from Taylor's army, this military force headed by John Riley and Santiago O'Leary fought for the Mexican side in support of Catholic interests. They threatened friendly fire at Cerro Gordo to avoid capture.

ANSWER: ST. PATRICK's Battalion [or Batallon de SAN PATRICIO; or SAN PATRICIOS; or LEGION OF FOREIGNERS]

[10] This victor at Cerro Gordo had his reputation tarnished by his handling of captured members of St. Patrick's Battalion. This great American general captured Veracruz and was known as "Old Fuss and Feathers."

ANSWER: Winfield SCOTT

13. One of the least useful forms of this reaction takes place between two different aldehydes, since that can result in up to four different products. For 10 points each:

[10] Name this reaction in which an enol or enolate attacks a carbonyl compound, and is then dehydrated, giving a beta-hydroxy compound with both aldehyde and alcohol functionalities.

ANSWER: ALDOL reaction [or ALDOL condensation]

[10] In most aldol condensations, the reaction of this kind of compound with an aldehyde or ketone produces the stronger



enolate rather than the weaker enol. The condensation is likely to be followed by an elimination.

ANSWER: a BASE [or a CONJUGATED BASE; any word form of BASE is fine]

[10] The aldol reaction uses a six-membered transition state in the chair conformation, and gives rise to anti- and syn- products if the enolates are respectively E or Z, according to this mechanistic model devised by two chemists.

ANSWER: ZIMMERMAN-TRAXLER model

14. This painter created a ten-part cycle based on Homer called *Fifty Days at Iliam* and did a series of pieces that are just painted with the word “VIRGIL”. For 10 points each:

[10] Name this American artist whose background as a cryptologist influenced his *Discourses on Commodus*. His white trip-tych *Phaedrus* was memorably smudged when artist Ridy Sam kissed it with red lipstick.

ANSWER: Cy TWOMBLY

[10] Twombly’s grey calligraphy style is often compared to this genre of art, which Twombly argues his work improves upon, by adding lyricism to an otherwise linear form. Jean-Michel Basquiat was a master of this art-form that has a recurring formal feature called “lines of power.”

ANSWER: GRAFFITI

[10] Twombly did a series of three studies of this Turner painting, which shows a retired ship from the Battle of Trafalgar returning to Chatham to be scrapped for metal.

ANSWER: The FIGHTING TEMERAIRE tugged to her last berth to be broken up, 1838

15. Colorful characters in this novel include Solomon Eagle, an “Enthusiast” who runs around naked with a pan of burning charcoal on his head. For 10 points each:

[10] Name this narrative told from the perspective of the saddler H.F., who recounts the public response to a 1665 crisis in London.

ANSWER: A JOURNAL OF THE PLAGUE YEAR

[10] This author of *A Journal of the Plague Year* wrote a novel about the incestuous Moll Flanders, who finally achieves penitence for her sexual immorality and petty theft

ANSWER: Daniel DEFOE [or Daniel FOE]

[10] Stanford literary critic Ian Watt argued that Defoe’s novels instigated the principles of “individualism” and “economic freedom” in this book length study of Defoe, Richardson, and Fielding in the context of the reading public.

ANSWER: The RISE OF THE NOVEL

16. This politician led his country to ally with France, resulting in the devastation of his country’s navy at the Battle of Trafalgar, and the eventual abdication of King Charles IV. For 10 points each:

[10] Name this Spanish prime minister whose disastrous policies paved the way for Napoleon’s invasion of Spain. However, he also concluded the Peace of Basel with France, leading him to be called the “Prince of the Peace.”

ANSWER: Manuel de GODOY

[10] After the fall of the Bourbon monarchy, the Spanish resistance organized this liberal assembly in the last city not under French control. This assembly’s passage of the 1812 constitution is often cited as the beginning of Spanish liberalism.

ANSWER: CORTES of CADIZ [or CADIZ CORTES]

[10] The Cortes of Cadiz opposed this elder brother of Napoleon, the puppet monarch of Spain. He’d previously served as a puppet king in Naples, where he abolished the old feudal systems.

ANSWER: JOSEPH Napoleon Bonaparte [or JOSÉ I]

17. This thinker faulted the title philosophy for “presuppos[ing] a constant relationship between concept and reality, independent of human praxis,” in his essay, “The Rationalism Debate in Contemporary Philosophy.” For 10 points each:

[10] Identify this philosopher who pursued that line of argument in a series of lectures delivered at the request of Leo Lowenthal and Paul Tillich.

ANSWER: Max HORKHEIMER

[10] In addition to writing the aforementioned *Eclipse of Reason*, Horkheimer is best known for his collaboration with Theodor Adorno on a work exploring the “Dialectic” of this concept, which according to Kant was equivalent to man’s emergence from self-imposed immaturity.

ANSWER: ENLIGHTENMENT

[10] This other collaboration between Adorno and Horkheimer relied on the “F-scale” to formulate a theory about the type of individual.

ANSWER: The AUTHORITARIAN PERSONALITY

18. This composer came up with a set of techniques in which pianists pluck strings or scrape them with their fingernails, which he appropriately called “string piano” and showed off in his piece *Aeolian Harp*. For 10 points each:

[10] Name this composer who combined his two favorite things, tone clusters and Irish mythology, in a piece premiered at a San Luis Obispo theosophical society, titled *The Tides of Manaunaa*.

ANSWER: Henry COWELL

[10] One of the best-regarded interpreters of Cowell’s string piano music, Sorrel Doris Hays, toured around the US and Europe in the 1970s with one of these instruments, popularized by Donald Buchla and Robert Moog.

ANSWER: sound SYNTHESIZER

[10] Cowell was also a promoter of world music, particularly from this country, whose own system of classical music is built on the notes *sa, re, ga, ma, pa, dha, ni, sa*, and incorporates scales and rhythms known as *ragas* and *talas*.

ANSWER: Republic of INDIA [or BHARAT Ganrajya]

19. This condition can be caused by treatments like the drug Tysabri, or by chemotherapy. For 10 points each:

[10] Name this state that can be caused by HIV, where the namesake system of the body has difficulty preventing disease, usually due to a lack of T cells or neutrophils. If it helps, it’s right there in the name HIV.

ANSWER: IMMUNODEFICIENCY [or word forms; accept any form of the phrase IMMUNOCOMPROMISED, prompt on “immunosuppression,” but accept things like NON-DELIBERATE IMMUNOSUPPRESSION or anything conveying the information that the IMMUNOSUPPRESSION WAS UNPLANNED]

[10] One particular concern when treating patients with Tysabri is that the immunosuppression makes patients vulnerable to progressive multifocal leukoencephalopathy, or PML, which is caused by this virus found in in over half the human population. It was named for the initials of a patient who had PML.

ANSWER: JC virus [or JOHN CUNNINGHAM virus or JCV]

[10] Another cause of immunodeficiency is a lack of one of the proteins in this part of the innate immune system, which contains proteins C1 through C9 and can form a membrane attack complex to lyse bacterial cells.

ANSWER: COMPLEMENT system

20. A woman tells a ghost tale about this character in which Theodore bets he can discover her identity but she vanishes forever when he sees her face. For 10 points each:

[10] Name this mysterious psychic who is the subject of an oft-excerpted story titled for “the silvery” cursed object that provides her name. She becomes a popular performer through the prophetic visions that the Satanic Professor Westervelt uses to control her.

ANSWER: The VEILED LADY

[10] Hollingsworth discovers the true identity of the Veiled Lady at the end of this novel by Nathaniel Hawthorne titled for a utopian community modeled on Brook Farm.

ANSWER: The BLITHEDALE ROMANCE

[10] Hollingsworth discovers this shy girl is actually The Veiled Lady and ends up marrying her. In the novel’s last sentence, Miles reveals that he did not actually love Zenobia but secretly loved this character, her half-sister.

ANSWER: PRISCILLA Moodie [prompt on MOODIE]

EXTRA BONUS

21. This sculpture depicts the she-wolf that suckled Romulus and Remus, as well as episodes from the Book of Genesis, including the Expulsion. For 10 points each:

[10] Name this “joyous” sculpture, a work of Jacopo della Quercia that replaced a pagan statue that was believed to be the cause of the Black Death.

ANSWER: FONTE GAIA [or FOUNTAIN OF JOY]

[10] Jacopo della Quercia designed the Fonte Gaia for this Italian city whose main public square is the Piazza del Campo, which stands next to the Palazzo Pubblico containing Lorenzetti’s Allegory of Good and Bad Government.

ANSWER: SIENA

[10] After Jacopo della Quercia left Siena, he entered a contest to design the bronze doors of the Baptistery of the Florence Cathedral, a contract which was eventually awarded to this other sculptor.

ANSWER: Lorenzo GHIBERTI