TOSSUPS

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1. In *The Philosophy of Symbolic Forms*, Ernst Cassirer argued that this concept is a symbolic form characterized by an absence of "representational function," so that the name of a thing is the thing itself. In a series of debates, Rudolf Bultmann's distinction between this concept and the *kerygma* (keh-RIG-mah), or "proclamation," was challenged by Karl Jaspers (YAH-"spurs"). In *Dialectic of Enlightenment*, Theodor Adorno argues that this concept already is Enlightenment, and Enlightenment inevitably returns to this concept. In *Reflections on Violence*, Georges Sorel (ZHORZH "so"-REL) argues that the "social" variant of this concept, rather than dialectical materialism, is the foundation for the "general strike." The "Spindle of Necessity" assigns souls to their next lives in a passage commonly named for this type of construct that appears at the end of Plato's *Republic*. Religious scholar Mircea Eliade (MEER-"chia" ell-ee-AH-day) argues that participation in this construct allows for the "eternal return." For 10 points, give this term for an archetypal story, such as those of Oedipus and Sisyphus.
ANSWER: **myth**ology [prompt on <u>stories</u> or <u>legends</u>]

2. After proclaiming his hatred of Nature's indifference, this character complains that personal death has been replaced by "an anonymous cheapened death which we could dole out to entire nations on a mathematical basis." He argues that "before deciding what is wrong and what is right we must first find out what we are," illustrating his point with a story about how his cultured tailor recently swallowed the beating heart of a man from Switzerland. This character says he learned "this is a world of bodies" during a period of imprisonment when he discovered that the "cells of the inner self are worse than the deepest stone dungeon." He recalls how he vomited at the sacking of a Carmelite convent in a speech punctuated by his asthmatic gasps as he is whipped. At the end of the play, he stands on his chair and laughs triumphantly as Coulmier ("COOL"-myay) orders the nurses to brutally beat the asylum inmates. For 10 points, name this man who stages the assassination of Jean-Paul Marat in a play by Peter Weiss ("VICE").
ANSWER: the Marquis de **Sade** [or Donatien Alphonse François de **Sade**]

3. *Description acceptable.* In 1966, John Gerassi argued that an oligarchical power play was behind a conspiracy exploiting this attitude during which town hall speeches were given by John L. Butler and future senator Frank Church. This attitude intensified in 1960 after the defection of two NSA codebreakers to the Soviet Union. During the election of 1964, the Barry Goldwater campaign exploited this attitude by making allusions to the Walter Jenkins incident. This attitude is why Clayton Hartwig was blamed for the 1989 explosion of the *USS Iowa*, and erupted in Boise after the *Idaho Statesman* published the headline "Crush the Monster." Dwight Eisenhower's Executive Order 10450 instituted civil service firings based on this prejudice, which Richard Nixon expressed in a conversation featuring the exchange "Hot pants. Jesus Christ." This attitude motivated the delivery of "blue discharges" during World War II and witch hunts of officials during the "lavender scare." For 10 points, identify this attitude of suspicion whose prevalence in the military spurred the passage of "Don't Ask, Don't Tell."
ANSWER: **homophobia** [or anything involving **fear** of **gay** people, or **fear** of sexual **deviance**, or fear that **gay** people might be **communists**; or the **Lavender Scare**; prompt on the <u>Red Scare</u> or fear of <u>Communists</u> which is related]

4. This university commissioned Helmut Jahn to design a dormitory that is clad in corrugated steel and divided into six segments. Its chapel, which is built of white masonry except for a large ground-to-roof glass panel in its front, is nicknamed "the God Box" by students. Its School of Architecture is housed in a building composed of one massive room uninterrupted by any internal supports and surrounded on all sides by glass windows encased in black steel beams. Rem Koolhaas designed a massive stainless steel tube to shield this university's student center from noise pollution from an elevated train that runs through its campus. The site of Crown Hall, in the 1940s and 50s, this university was redesigned according to the master plan of its Dean of Architecture, Ludwig Mies van der Rohe. For 10 points, name this Chicago university.
ANSWER: **Illinois Institute of Technology** [or **IIT**; or **Illinois Tech**]

5. The poem "To Return to the Trees" concludes with the image of an "obdurate almond going under the sand with [one of *these* things], slowly, by sand grains, by centuries." The penultimate poem of the sequence *Midsummer* ends by describing one of these things that "had winged lions in it, and birds cut into a wall." The speaker of the poem "Codicil" claims that "to change [*this* thing] you must change your life." The speaker of another poem describes how the sprinkling from "an earthen, water-bearing vessel" turns him and his countrymen into "good Fridays" who make their master's one of these things their own. The speaker asks, "how choose between this Africa and [one of *these* things] I love?" in "A Far Cry from Africa." For 10 points, name these things, the choice of which is an issue for post-colonial writers such as Derek Walcott, who primarily used the English one to compose his works.
ANSWER: **language**s [or **tongue**s]

6. Perturbative expansion of one type of this system in terms of two coupling constants with a fixed ratio produces an equation of motion where the second time derivative of the more slowly changing variable is proportional to the partial derivative of an effective potential with respect to that variable. David Acheson derived the conditions under which another type of this system may be coupled to itself an arbitrary number of times while remaining stable. The Furuta type of this system is a benchmark for testing nonlinear control strategies for under-actuated mechanical devices. The exact solution for the simplest type of this system contains a complete elliptic integral of the first kind. The equation "three cosine theta-one" plus "sine theta-two" equals "two" defines the onset of chaotic behavior in the "double" type of this system. For 10 points, name this oscillatory system in which a mass is suspended from a pivot.
ANSWER: **pendulum**s [accept Kapitza **pendulum**, inverted **pendulum**, Furuta **pendulum**, or double **pendulum**; prompt on parametric **oscillator**s or driven harmonic **oscillator**s; do not accept "simple harmonic oscillators"]

7. This food, which pejoratively gave its name to Taiwan's millennial generation, was reclaimed as a badge of honor after a 2008 student protest. It was the namesake of the printing press that printed Thomas Gray's two Pindaric odes and which is generally credited as the first private press in England. Captain Queeg theorizes that a duplicate key was forged during his inquest into the theft of a quart of this food in *The Caine Mutiny*. In *Othello*, Desdemona's handkerchief is embroidered with this food. The aforementioned private printing press was run by Horace Walpole from his famed Gothic revival mansion, which was also named for this food. An aging doctor remembers gathering this fruit with his childhood sweetheart Sara in a film in which he and his daughter pick up hitchhikers as they travel across Sweden for an award ceremony. For 10 points, name this fruit, "wild" examples of which title an Ingmar Bergman film.
ANSWER: wild **strawberry**

8. This political party was affiliated with the militant BTI, which launched "unilateral action" against landlords. An extremist faction of this party pursued the "Gottwald Plan," which was discredited after sparking the Madiun Affair. Images of this political party's associated women's group performing the hypersexualized "Fragrant Flower Dance" before committing murder can still be found in a museum at the "Crocodile's Pit." This party's members were targeted by the *Ansor* militia during an event in which they were linked with the "Gestapu" and the U.S. Embassy handed out lists of thousands of its members. The *Washington Post*-leaked "Cornell Paper" argued that this party was not responsible for the killing of six generals during an attempted coup. Joshua Oppenheimer's documentary *The Act of Killing* describes how this party was blamed for the 30th September Movement, leading to a gangster-led purge of up to a million citizens. For 10 points, name this party for peasants and workers that was liquidated by death squads with the blessing of Suharto.
ANSWER: **Indonesian Communist** Party [prompt on partial answer; accept the **PKI** or Partai **Komunis Indonesia**]

9. A 1987 paper found negative consequences from this phenomenon by creating the first formalization of the Roy Model. A 2016 paper on this phenomenon by Giovanni Peri drew criticism for equating high school dropouts with workers still in high school. Rachel Friedberg studied the collapse of the Soviet Union to produce a classic paper on this phenomenon, which has been blamed for a legion of social evils, including black-on-black crime, by Harvard economist George Borjas. It's not the minimum wage, but in 2015, Borjas questioned David Card's 1990 study that modeled this phenomenon as a "supply shock" with data from Miami. Charles Kenny found that 26% of all startups and patents result from this phenomenon, which may displace skilled workers through the use of "H1-B" status. For 10 points, identify this phenomenon whose supposed adverse economic effects would theoretically be curbed by Donald Trump's wall.
ANSWER: **immigration** [or **immigration** to the United States; or illegal **immigration**]

10. The "reverse" form of this effect results in loss of stromal ca·ve·olin-1 and autophagy of neighboring fibroblasts. In one type of tissue this effect occurs when the E·3 ligase von Hippel-Lindau protein can no longer interact with hypoxia-inducible factor one-alpha. Lloyd Demetrius attributed the age-dependent acceleration of brain dysfunction in Alzheimer's and Parkinson's to the the "inverse" form of this effect. Di·chloro·acetic acid inhibits this effect by inhibiting mono·carboxylate transporters. It is often accompanied by an increase in the PK-M2 isoform of pyruvate kinase. This effect is the reverse of the Pasteur effect. The idea for this effect was based on the observation that certain types of tumors produce lactate even in the presence of oxygen. For 10 points, give this effect named for a German doctor who observed that cancer cells rely mostly on glycolysis.
ANSWER: **Warburg** effect

11. The strongest textual evidence for this religious belief is in First Corinthians 3:11, which describes building on Christ's foundation with gold, silver, or wood. The widespread translation of a text about the knight Tundale collapsing was a landmark in the history of this belief, according to Annales School historian Jacques le Goff, who traced its birth to the 12th century. As this belief spread, more pilgrims visited a cave on Station Island in Lough Derg (loff derg) where St. Patrick met Jesus. Stephen Greenblatt analyzed the influence of the abolition of this idea on Shakespeare's *Hamlet*. This belief led donors in England to found 800 "chantries" where priests sung masses. Johann Tetzel alluded to this belief in a jingle that raised money for St. Peter's Basilica, because believers in it bought "indulgences" for dead relatives. For 10 points, name this Catholic belief in a liminal territory that purifies souls before they enter Heaven.
ANSWER: **Purgatory** [or **Purgatorium**]

12. A normal example of these sequences has an underlying sigma field equal to sigma of the sign of the W function; that one named for Azema is subject to Kurtz's theorem, which states that one of these things converges if the "Z-hat t" operator for it is self-adjoint. Certain "cadlag" sequences can be decomposed into one of these sequences and an "increasing predictive process" by the Doob-Meyer theorem. Both these sequences and their "super-" generalization are defined over filtrations, but in the latter the equals operator has been replaced with a "greater than or equal to" operator in the definition of EV. An 18th-century strategy in which one repeatedly doubles their bets gives its name to these processes, an example of which is a finite-dimensional random walk. For 10 points, name these sequences of random variables in which the expected value of one variable equals the observed value of the one previous to it, regardless of other prior observations.
ANSWER: **martingale**s

13. This character addresses the "dark Hindoo half of nature" as he watches an animal turn to "seek intercedings with yon all-quickening sun" before it dies. In a soliloquy, this character compares his followers to revolving wheels within his "cogged circle," then to "so many ant-hills of powder…and I their match," and describes himself as "madness maddened: that wild madness that's only calm to comprehend itself." This character boasts, "I'd strike the sun if it insulted me," after remarking of his enemy, "He tasks me; he heaps me; I see in him outrageous strength, with an inscrutable malice sinewing it." This character exclaims "to the last I grapple with thee; from hell's heart I stab at thee" just before he is caught by a rope and killed by the creature that tore off his leg years before. For 10 points, name this captain of the *Pequod* who hunts the title whale in *Moby-Dick*.
ANSWER: Captain **Ahab**

14. Otto Skorzeny trained the "Black Cats" unit to fight for the Nazis in this modern-day country. The worst war criminal fighting in this constituent country was Oskar Dirlewanger, the drug-addled leader of a brigade of convicted poachers that burnt civilians alive as part of a larger plan to purge its capital and rebuild it as an Aryan colony called "Asgard." General Platon coordinated actions with a group of Naliboki Forest partisans in this modern-day country made up of 1200 Jews under the Bielski Brothers. In 1943, the Nazi commissar over this country, Wilhelm Kube (koo-beh), was killed by a time bomb planted by a partisan working as his maid. In 1988, Zyanon Paznyak exhumed mass graves containing up to 200,000 purge victims in this country's Kurapaty Forest. Timothy Snyder's *Bloodlands* argues that the most horrific interactions between Nazism and Stalinism happened in this country, which lost a third of its population and two-thirds of its cities in World War II. For 10 points, name this country where Soviet atrocities are denied by the government of Alexander Lukashenko.
ANSWER: **Belarus**

15. *Note to players: artist and type of work required.* In one of these paintings, the word "ADONAI" is inscribed on St. George's breastplate as he introduces the title jowly canon, whose salvation is signified by armrest sculptures of Cain killing Abel and Samson wrenching a lion's jaws apart. Two angels unfurl a cloth canopy in one of these paintings set "at the Fountain," and the subject towers halfway up to the ceiling of a Gothic cathedral in one of them set "in the Church." The most famous painting from this set represents the seven deadly sins through stone rabbits underneath a column, four capitals depicting Bible stories, idlers on a battlement, and the title character's gold-studded belt. That painting's foreground features a room tiled with eight-pointed stars where an angel holds a giant crown above the head of the title character. For 10 points, name this group of paintings of the Holy Mother, including one painted for Chancellor Rolin, by the artist of the *Ghent Altarpiece*.
ANSWER: **Madonna**s by Jan **van Eyck**

16. Electrons in *e*-sub-*g* orbitals do not contribute to orbital angular momentum because the *e*-sub-*g* orbitals cannot transform between each other under this operation. Irreducible representations are labelled B if they have a character of -1 for this operation. Like EPR transitions, transitions of this type tend to have single wavenumber energies. FT-IR can resolve peaks with identical spacing that appear due to this type of transition, which are responsible for forming the P and R branches. In Schoenflies (SHUN-"flees") notation, "improper" versions of this operation are denoted S, while "proper" n-fold symmetries under this operation are denoted *C*-sub-*n*. Linear molecules only have two degrees of freedom under this operation, while non-linear molecules have three. For 10 points, circles have an infinite amount of what type of symmetry that involves moving a point a certain number of degrees about an axis?
ANSWER: **rotation** [or word forms such as **rotational**]

17. This character's death is indirectly caused by one of his sons pretending to be a pregnant woman in front of a group of sages. When this character places a child with three eyes and four arms on his lap, the extra appendages disappear. This character's kinsmen kill each other en masse with blades of grass that turn into iron clubs, fulfilling a curse placed on him by another character who states that the women of his race will weep just as she has wept for her one hundred dead sons. While waiting for this character to wake up, Duryodhana (dur-yohd-HAH-nah) arrogantly sits behind his head rather than at his feet; as a result, this character's armies fight for the Kauravas, but he personally serves as an advisor to the Pandavas. This character says "I am become death, the destroyer of worlds" in a speech on the importance of following dharma. For 10 points, name this character in the *Mahabharata* who acts as Arjuna's charioteer and is an avatar of Vishnu.
ANSWER: **Krishna** [prompt on Vishnu]

18. This poem describes a person who will "fit his tongue to dialogues of business, love, or strife…as if his whole vocation were endless imitation." Harold Bloom argued that this poem set the template for the "crisis-lyric" followed by poets as diverse as Whitman, Dickinson, and Stevens. The most dramatic turn in this poem occurs after the speaker predicts a time when "custom [will] lie upon thee with a weight, heavy as frost, and deep almost as life!" Uncharacteristically for its author, this poem uses a Platonic metaphor in the stanza beginning "Our birth is but a sleep and a forgetting." The first four stanzas of this poem, which ask "Whither is fled the visionary gleam?", prompted a response from Coleridge in "Dejection: An Ode." This poem concludes, "to me the meanest flower that blows can give thoughts that do often lie too deep for tears." For 10 points, name this irregular Pindaric ode by William Wordsworth.
ANSWER: "**Ode: Intimations of Immortality** from Recollections of Early Childhood" [or the **Intimations Ode**; or the **Immortality Ode**; or the **Great Ode**]

19. One form of this resource was governed by the *precarium*, a type of law derived from the word *preces* meaning "request." During a war fought over this resource, slingers inscribed their bullets with still-extant graffiti about Fulvia's vagina. Octavian and Antony fought the Perusine War over the distribution of this resource, which Pompey used in order to buy off the pirates he claimed to have defeated. In addition to allowing plebeians to access the consulship, the 4th-century Licinio-Sextian laws regulated the purchase of this resource. The Lex Sempronia financed the *collegia* distributing this resource with the Roman people's inheritance from Attalus III of Pergamum; that reform sought to end the dispossession of Roman soldiers abroad through its concentration into slave-run *latifundia* that exceeded 500 *iugera* (YOO-ger-uh). For 10 points, name this factor of production whose inequities provoked the conflict between the Senatorial class and the Gracchi, who championed the cause of smallholding farmers.
ANSWER: **land** [or Roman farm**land**]

20. A "multiple" variant of this instrument was designed for Benjamin Britten's church parable *The Burning Fiery Furnace*, influenced by a Japanese instrument called the *shakubyoshi* (SHAH-koo-BYOH-shee). A pair of notes played by this instrument marks the transition between the "Malagueña" (mah-lah-GWAY-nyah) and "Loreley" movements of Dmitri Shostakovich's fourteenth symphony. Krzysztof Penderecki's first symphony opens with a solo for this instrument in which it plays a series of individual notes separated by pauses. In Mahler's fifth symphony, this instrument appears only in the scherzo, in which the trumpets double it when it twice takes over the rhythm from the glockenspiel. Maurice Ravel's Piano Concerto in G Major begins with a single note played by this instrument. For 10 points, name this percussion instrument consisting of two pieces of wood joined by a hinge, which imitates the characteristic "crack" of its namesake tool.
ANSWER: **whip** [or **slapstick**; or **clapper**; or **Holzklapper**]

TB. During the late 19th century, one of these places in Telz adopted many innovations inspired by the principles of the Musar Movement. During the 20th century, the majority of these places adopted the Brisker method, whose six steps include clarifying and classifying basic concepts. Medieval ones focused on the delivery of a hiluk using the method of pilpul at the end of a period of time called a zeman. In the United States, many of these places are divided into institutions called the ketana, the mesivta, and the kollel. The first modern example of one of these places was founded in Volozhin in 1803 by a student of the Gaon of Vilna. In Israel, many ultra-Orthodox Jews receive welfare so they can spend time in these places instead of working. For 10 points, name these schools where Jews study the Torah and the Talmud.
ANSWER: **yeshiva**s [or **yeshivot**; prompt on school or Jewish school or similar answers; do not accept or prompt on "shul"]

1. Along with Nestorianism, this heresy, propagated by Eutyches, was condemned by the church at the Council of Chalcedon. For 10 points each:
[10] Name this heresy which held that Jesus Christ had only one divine nature, rather than a divine nature and a human nature.
ANSWER: **Monophysitism**
[10] This Eastern Roman Emperor sought to solve the Monophysite controversy by endorsing Miaphysitism in the *Henotikon*. This emperor ruled Constantinople during the Acacian Schism and the 476 A.D. fall of the Western empire.
ANSWER: **Zeno** the Isaurian
[10] In this component of the Chalcedonian controversy, Emperor Justinian anathematized writings of Theodore of Mopsuestia (mop-soo-ES-tee-ah), Theodoret of Cyrrhus, and Ibas of Edessa to appease the Monophysites.
ANSWER: **Three-Chapter**s Controversy

2. Constant Lambert was inspired by his affair with this dancer to compose his ballet *Horoscope*. For 10 points each:
[10] Name this British star of the Royal Ballet who was known for dancing with the Soviet defector Rudolf Nureyev in the 1960s.
ANSWER: Margot **Fonteyn** (like "Fontaine")
[10] This English choreographer created *Marguerite and Armand* for Fonteyn and Nureyev. His other ballets include *Façade* and *Ondine*.
ANSWER: Frederick **Ashton**
[10] Fonteyn was well known starring in this Tchaikovsky ballet, in which the evil fairy Carabosse curses Aurora to prick her finger on a spindle on her sixteenth birthday.
ANSWER: The ***Sleeping Beauty*** [or ***Spyashchaya krasavitsa***]

3. After describing an official whom one could poke one's forefinger through and find "nothing inside but a little loose dirt, maybe," this character recalls an old Scotch sailmaker who would fight anyone who laughed at his belief that there were men on Mars. For 10 points each:
[10] Name this character who describes the wrestle with death as "the most unexciting contest you can imagine," recalling how "I was within a hair's-breadth of the last opportunity for pronouncement, and I found with humiliation that probably I would have nothing to say."
ANSWER: Charles **Marlow** [or **Charles** Marlow; or **Charlie** Marlow]
[10] In *Heart of Darkness*, Marlow journeys into the Congo to meet this ivory trader whose last words are "The horror! The horror!"
ANSWER: **Kurtz**
[10] On the way to Kurtz's station, Marlow encounters a sailor of this nationality who looks like a harlequin and is a disciple of Kurtz. Marlow returns to the sailor his seamanship manual annotated in his native language.
ANSWER: **Russian**

4. During this period, the cosmetic-wearing "Flower Boys," or *hwarang*, served vital administrative roles in Silla. For 10 points each:
[10] Name this period of Korean history chronicled in the *Samguk Yusa* and characterized by struggles between such states as Silla and Baekje. An analogous period in Chinese history followed the nation's division after the Han Dynasty.
ANSWER: **Three Kingdoms** Period
[10] In 935, General Wang Kon overthrew the Silla Kingdom to establish this successor state, which ruled the peninsula until 1392 and produced valuable celadon ceramics.
ANSWER: **Goryeo** Kingdom [or **Koryo** Dynasty]
[10] A gold-and-jade antler crown was found outside of South Korean city, which holds the burial mounds of Silla kings. This site of the *Hwabaek* council was the capital of Silla.
ANSWER: **Gyeongju** [or **Seorabeol**]

5. Answer questions about various things in astronomy that are named Virgo, for 10 points each.
[10] The VIRGO instrument is part of this joint E·S·A-NASA probe that has been in a halo orbit about the Earth-Sun L-one point since 1996, measuring the solar wind and atmosphere as well as enabling the detection of many comets.
ANSWER: **SOHO** [or **Solar and Heliospheric Observatory**]
[10] The Virgo Consortium created this N-body cosmological simulation whose first run took place in 2005, starting at the recombination epoch and modeling ten billion particles in a cube with a side length of two billion light-years.
ANSWER: **Millennium** Simulation [or **Millennium** Run]
[10] The Virgo one of these objects contains the galaxy M87 and is part of a "super" one of these objects also named Virgo that includes the Local Group. The Bullet one of these objects is key evidence of the existence of dark matter.
ANSWER: galaxy **cluster**s [or super**cluster**s]

6. Frederic Chopin played his Paris debut at a concert hall run by this family, who made pianos for him. For 10 points each:
[10] Name this French family of pianists and piano builders. A member of this family published the first miniature scores.
ANSWER: **Pleyel** ("play"-ELL)
[10] Ignaz Pleyel was a student and rival of this Austrian "Father of the Symphony," who wrote over 100 of those works, culminating in his "London" Symphonies.
ANSWER: Franz Joseph **Haydn**
[10] Pleyel published many works by his colleagues including Haydn and Luigi Boccherini, whose string quintets include this one, his Opus 30, No. 6, which has movements depicting soldiers' drums, blind beggars, and the city watch.
ANSWER: *Night Music of the Streets of Madrid* [or La *Musica Notturna delle Strade di Madrid*]

7. Stanley Cavell considered the "Words," "Sentences," and "Portions" at work in this book in his study *The Senses of [this book]*. For 10 points each:
[10] Name this book, part memoir and part philosophical treatise, that includes a climactic description of multicolored thawing sand as it flows "down the slopes like lava," forming a "grotesque vegetation."
ANSWER: *Walden*
[10] Walden Pond is located in this state, which was home to both the book's author, Henry David Thoreau, and the pond-bordering land's owner, Ralph Waldo Emerson.
ANSWER: **Massachusetts**
[10] Thoreau devotes a chapter in *Walden* to discussing his cultivation of these plants, claiming to have planted seven miles of them and repeatedly bringing up his bitter relationship with the nefarious woodchucks. The chapter includes a famous sentence reading, "I was determined to know [*these* things]."
ANSWER: **bean**s

8. Carboxylic acids can be alkylated to ketones by first using SOCl2 to convert them into one of these molecules, and then using a Gilman reagent. For 10 points each:
[10] Name these most reactive carboxylic acid derivatives. One of them reacts with an aluminum tri·chloride catalyst to give an intermediate with a carbon-oxygen triple bond in the first step of a Friedel-Crafts reaction.
ANSWER: **acyl chloride** [or **acid chloride**; or **acyl halide**]
[10] Elimination of HCl from an acyl chloride results in a molecule with this functional group. One of these molecules forms from the expulsion of nitrogen from an alpha·di·azo·ketone in the Wolff rearrangement. They undergo a 2+2 cycloaddition with imines to yield beta-lactams in a reaction named for Staudinger.
ANSWER: **ketene** [do NOT accept "ketone"]
[10] Ludwig Wolff also co-names a reaction of this type, which uses hydrazine and potassium hydroxide to convert carbonyl compounds into alkenes.
ANSWER: **reduction** [accept the **Wolff-Kishner reduction**]

9. This effect was tested by Colin Cherry, who found that subjects could more easily distinguish two threads of conversation when they were coming separately through a right and left headphone ear. For 10 points each:

[10] Identify this colloquially-named effect that allows a listener to focus attention on a single conversation in the middle of a crowded, noisy room.
ANSWER: **cocktail party** effect
[10] Anne Treisman modified Donald Broadbent's "filter" model by proposing this model of attention, in which more important unattended stimuli have lower thresholds to pass through Broadbent's filter. It explains why subjects in cocktail party effect studies will notice when the unattended voice mentions their name.
ANSWER: **attenuation** model
[10] The strain of task-switching on attention is exemplified by the Stroop Effect, shown in experiments in which subjects were presented with lists of these types of words.
ANSWER: **color** terms

10. An "effect" named for this agency involves companies it puts on its annual "Focus List" for underperformance subsequently overperforming the following year. For 10 points each:
[10] Name this state agency which is known for its aggressive shareholder activism in managing the largest public pension fund in the US.
ANSWER: **CalPERS** [or **California Public Employee's Retirement System**; prompt on answers with California and pension/retirement]
[10] CalPERS was involved in drafting the Sarbanes-Oxley Act after it lost hundreds of millions of dollars it had invested in this corrupt Texas energy company led by Kenneth Lay.
ANSWER: **Enron**
[10] Just before the 2008 financial crisis, CalPERS controversially invested $140 million into high risk unrated tranches of this kind of security that frequently used mortgage backed securities as underlying assets.
ANSWER: **CDO** [or **collateralized debt obligation**]

11. Art critic Germano Celant (chay-LAHNT) coined the name for this movement in the manifesto *Notes for a Guerrilla War*, in which he argued that Alighiero Boetti, Jannis Kounellis, and Mario Merz sought to destroy "the dichotomy between art and life." For 10 points each:
[10] Name this radical Italian art movement of the late 1960s, characterized by its use of cheap materials like coal, asbestos, and twigs.
ANSWER: **Arte Povera** [or **Poor Art**]
[10] Arte Povera was influenced by the work of this conceptual artist, who covered his face in honey and gold leaf for his performance art piece *How to Explain Pictures to a Dead Hare*.
ANSWER: Joseph **Beuys** ("boys")
[10] Mario Merz protested this ongoing conflict by creating *Giap's Igloo* out of metal wiring and neon tubes. Eddie Adams took a famous photograph of a police chief performing a street execution during this war.
ANSWER: **Vietnam** War

12. Name some things about the role of women in modern Judaism, for 10 points each:
[10] Some ultra-Orthodox have objected to a 2016 proposal to designate an area for women to pray at this Jerusalem site. Worshippers often place written prayers in the cracks of this last remnant of the Second Temple.
ANSWER: **Western Wall** [or **Wailing Wall**; or Ha-**Kotel** Ha-Ma'aravi]
[10] This American rabbi held the first public bat mitzvah in the United States for his daughter Judith. He incorporated his views on the equality of women into Reconstructionist Judaism, which he founded with Ira Eisenstein.
ANSWER: Mordecai **Kaplan**
[10] In 2002, Conservative Judaism joined Reconstructionist and Reform in finally allowing women to count for a minyan, the requirement that this many Jews be present for public prayer and other religious events.
ANSWER: **ten**

13. This city is home to Redstone Arsenal, which served as a chemical weapons manufacturing site during World War II before becoming the host of the Army Ballistic Missile Agency. For 10 points each:
[10] Name this southern city which is nicknamed "Rocket City" in part because NASA's Marshall Space Flight Center is located there.
ANSWER: **Huntsville**, Alabama
[10] This German designer of the V-2 rocket served as the first leader of the Marshall Space Flight Center.
ANSWER: Wernher **von Braun** [prompt on partial answer]
[10] This R&D center teamed with von Braun's Huntsville unit to launch Explorer 1, the first US satellite. This arm of NASA is managed by Caltech and currently focuses on planetary robotic spacecraft.
ANSWER: **Jet Propulsion Lab**oratory [or **JPL**]

14. This character agitatedly insists on adding a French postscript in support of the French Revolution to his suicide note dictated by Pyotr Verkhovensky. For 10 points each:
[10] Name this man, inspired by Nikolai Stavrogin, who wants to kill himself as an apocalyptic act of self-determination proving his conquest of fear. He falsely accepts the blame for the murder of Shatov.
ANSWER: Alexey Nilich **Kirillov** [or **Alexey** Nilich Kirillov]
[10] Kirillov is a character in this author's novel about a group of radicals, whose title has been translated alternately as *The Devils*, *Demons*, and *The Possessed*.
ANSWER: Fyodor **Dostoevsky** [or Fyodor Mikhailovich **Dostoevsky**]
[10] During one of these events in *The Devils*, Liza Tushin is killed by a mob and the Lebyadkins are murdered by Fedka the convict.
ANSWER: a **fire**

15. In this novel, Lily Gates elopes to Liverpool with the factory worker Bert Jones, but is forced to return home. For 10 points each:
[10] Name this novel about the lives of the owners and workers in a Birmingham iron foundry, written in sentences largely devoid of articles.
ANSWER: *Living*
[10] *Living* was written by the modernist author Henry Green, who was friends with this contemporary author of the early novels *Decline and Fall* and *A Handful of Dust*.
ANSWER: Evelyn **Waugh** [or Arthur Evelyn St. John **Waugh**]
[10] Waugh's most overtly modernist novel was this one, his second, a satire on the "Bright Young Things" about Adam Fenwick-Symes.
ANSWER: *Vile Bodies*

16. *Note to moderator: please silently read the bracketed part of the first answerline to yourself before continuing.*
The anti-commutator of any two of these objects equals two times the Minkowski metric times the identity. For 10 points each:
[10] Name these mathematical objects that generate a representation for the complexification of the Clifford algebra of the quadratic form of signature one comma three that is on a real vector space.
ANSWER: **gamma matrices** [accept, BUT DO NOT OTHERWISE REVEAL, **Dirac matrices**]
[10] Gamma matrices appear in the covariant form of this equation, which gives the relativistic wavefunction of a spin one-half particle. The fact that this equation has negative energy solutions implies the existence of antimatter.
ANSWER: **Dirac** equation
[10] This doubly eponymous canonical transformation decouples the Dirac equation into a pair of two-component equations, one of which represents positive energy states and the other of which represents negative energy states.
ANSWER: **Foldy-Wouthuysen** ("foldie" VOWT-"how"-zen) transformation [prompt on FW transformation]

17. After the ascent of the Despenser family, this woman left the English court for Gascony, then returned with an army. For 10 points each:
[10] Name this "She-Wolf," a queen of England who may have arranged the murder of her husband in 1326 to rule the country with her lover, Roger Mortimer.
ANSWER: **Isabella of France** [prompt on partial answer]
[10] Isabella of France was married to this feckless English king, most famous for alienating his barons with his affair with the incredibly annoying Piers Gaveston.
ANSWER: **Edward II**
[10] Isabella raised her army to invade England partly by betrothing her son to this woman, the daughter of William the Good, Count of Holland. Jean Froissart served as this woman's secretary.
ANSWER: **Philippa** of Hainaut (AY-no)

18. Written for a contest sponsored by the Academy of Dijon, this essay argues that man in the state of nature is happy rather than brutal, but separate from the animals by his "perfectibility." For 10 points each:
[10] Name this 1754 essay arguing that beneficial *amour de soi* (ah-MOOR de SWAH) is replaced by immiserating *amour propre* as men organize themselves into societies, resulting in political systems in which the rich dominate the poor.
ANSWER: **Discourse on Inequality** [or the **Discourse on** the Origin and Basis of **Inequality** Among Men; or Rousseau's **Second Discourse**; or **Discours sur** l'Origine et les Fondements de **l'Inégalité** Parmi les Hommes]
[10] In the dedication of his *Discourse on Inequality*, Rousseau asserts that the optimal combination of natural and artificial inequality is displayed in this city-state, of which Rousseau was born a citizen.
ANSWER: **Geneva** [or **Geneve**]
[10] In a letter to Jean-Baptiste d'Alembert, Rousseau cites the ascendance of women and the persistence of dueling in France as arguments against one of these institutions in Geneva.
ANSWER: a **theater**

19. This theorist advocated intervention only when "absolutely necessary" in his 2005 article "Taming American Power," which expresses his view of foreign policy realism. For 10 points each:
[10] Name this author of the comparative study *Revolution and War*, a Harvard international relations theorist who has advocated a drawdown of hostilities towards Iran and non-intervention in Syria.
ANSWER: Stephen **Walt** [do not accept "Waltz"]
[10] With John Mearsheimer, Walt authored a controversial book criticizing the undue influence on American foreign policy of this country's "lobby," exemplified by organizations like AIPAC.
ANSWER: **Israel**
[10] In *The Origin of Alliances*, Stephen Walt presented this modification of an earlier theory by Kenneth Waltz; according to this approach, states form alliances against aggressive intentions, rather than raw offensive power.
ANSWER: "**Balance of Threat**" theory [do not accept or prompt on "Balance of Power"]

20. Cells undergoing this process experience a decrease in expression of *E*-cadherin and increased expression of *N*-cadherin and vimentin. For 10 points each:
[10] Name this process in which cells lose their polarity and adhesion and become multipotent stromal stem cells. It can accelerate tumor metastasis and involves the upregulation of transcription factors like Snail, Slug, and Twist.
ANSWER: **epithelial-mesenchymal transition** [or **EMT**; do not accept or prompt on "mesenchymal-epithelial transition" or "MET"]
[10] In amniotes, an EMT in the primitive streak allows the separation of the endoderm from this other germ layer. This germ layer differentiates into muscle and connective tissue like blood and bone.
ANSWER: **mesoderm**
[10] These ectoderm-derived cells are formed by an EMT and migrate throughout the body where they give rise to a various of cell types including the melanocytes of the skin and the chromaffin cells of the adrenal glands.
ANSWER: **neural crest** cells