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TOSSUPS:

1. **Before disbanding, the terrorist collective Omega 7 was composed of people of this ethnicity. They aren't Germans, but Union City, New Jersey has received an alliterative nickname that refers to its large community of members of this ethnicity. Operation Peter Pan refers to a clandestine effort to transport kids of this ethnicity, members of which were the subject of the (*) wet foot, dry foot policy. Thanks to Janet Reno's efforts to solve a custody dispute, there exists a photo of an armored federal agent brandishing a rifle at a young boy of this ethnicity. Near Tampa, a member of this ethnicity founded Ybor City ("EE-bor"), known for its cigar production. The Mariel boatlift carried, for 10 points, members of which ethnicity, who often moved to Miami to flee from Fidel Castro?**

ANSWER: **Cuban**-Americans [accept **Cubanos**; accept **cubanoamericanos**] (the nickname for Union City is "Havana on the Hudson")

<BK, American History>

2. **In a novel by this author, the narrator is astounded when an ex-fighter pilot does not move for hours while reading *Principles of Psychology* in a library. The protagonist of a novel by this author agrees to marry Sally Athelny in the National Gallery, even after learning her pregnancy scare was a false alarm. A party girl named Sophie washes up on a beach, naked with her throat cut in a novel by this author which focuses on Larry (*) Darrell's search for enlightenment across Europe and India. In another novel by this author, the protagonist has sordid affairs with the waitress Mildred and the romance novelist Nora Nesbitt all while dealing with his clubfoot. For 10 points, name this English author who included autobiographical elements in his novels *The Razor's Edge* and *Of Human Bondage*.**

ANSWER: William Somerset **Maugham**

<TH, Long Fiction>

3. **A man with this profession from Antioch is stoned to death for preaching the teachings of Jesus after his son is healed by John, Jude and Peter. This is the profession of the early Christian martyr Habib, who is honored primarily in Muslim tradition. The Greek word *tehton* is rendered as this word in most Biblical translations. Isaiah 44:13-20 discusses a person with this profession who creates an idol immediately after a brief description of a (*) blacksmith. A biblical figure with this profession fathered James, Jude and Simon and is the patron saint of all workers and happy deaths. Jesus is directly referred to as member of this profession only in Mark 6:3. For 10 points, name this type of craftsman exemplified by Jesus's Earthly father Joseph.**

ANSWER: **carpenter** [accept **woodworker**, accept **handyman**; accept **engineer**; prompt on **craftsman** or **artisan**]

<TH, Religion>

4. **One conflict fought over this resource was known as “the war of soldiers without clothes,” due to its participants’ economic destitution, and saw the German immigrant Hans Kundt lead one side at two bloody battles at Fort Nanawa. The Mexican people were asked “to face the consequences of a decision,” which they “would neither have sought nor desired,” after Lazaro Cardenas’s 1917 nationalizing of (*) foreign-owned infrastructure in this resource within his country. The Gran Chaco War was fought over supposed stores of this resource, which remains the focus of Latin America’s two largest companies by revenue. For 10 points, Venezuela’s massive reserves of which resource allowed it to become the only non-Middle Eastern founding member of OPEC?**

ANSWER: crude **oil** [accept **petroleum**; prompt on **fossil fuels**; prompt on **land** before “Lazaro” with “What resource was thought to be located in that land?”; do NOT accept or prompt on “gasoline”; do NOT accept or prompt on “petrol”]

<TM, World History>

5. **The Tomioka shrine, dedicated to a figure associated with this domain, is where sumo wrestling started; that kami of this domain is Hachiman. A god of this domain sprung forth from his mother’s womb, killing her and 400 of his siblings in the process. A god of this domain wields the flame serpent Xiuhcoatl and instructed one people to leave their homeland and rename themselves Mexica. (*) Huitzilopochtli is the Aztec god of this domain, which was also the domain of a Greek god that was trapped in a jar by the Aloadae before being saved by Artemis. That god of this domain was captured in a net by Hephaestus while in bed with Aphrodite. For 10 points name this violent activity associated with Ares.**

ANSWER: **war** [accept **warfare**; accept **battle**]

<JH, Mythology>

6. **Steitz and Steitz proposed the two-metal-ion mechanism to explain the role of this metal in the action of EcoRI (“Eco R one”) and EcoRV (“Eco R five”). As H⁺ (“H plus”) leaves the stroma, potassium and this metal are pumped into the stroma where this metal is a cofactor for fructose 1,6-bis-phosphatase (“one six bis foss-fah-tase”). Carbon dioxide binds to the active site of RuBisCO (“roo-bis-coh”) to correctly orient this metal for binding to RuBP (“R-U-B-P”). This metal activates (*) A·T·P by holding the tri-phosphate chain in a specific conformation. This cat-ion is at the center of the porphyrin ring in chloro-phyll. Eclampsia is prevented by taking this metal’s sulfate which acts as a laxative if taken orally. For 10 points, name this group two metal found in Epsom salt, abbreviated Mg.**

ANSWER: **magnesium** [or **Mg** 2 plus until mentioned]

<LL, Biology>

7. **This archipelago was the home of the now extinct moa-nalo, a type of giant duck. The 800 species of *Drosophila* spread across the islands of this archipelago are oft-cited evidence of adaptive radiation, and include the “picture wing” variety. The nene goose species is native to this archipelago. The W.M. (*) Keck Observatory is located on this archipelago. The ahi tuna-based dish poke (“po-KAY”) is from this archipelago, whose largest city, the second most populous in Polynesia, includes sites like Diamond Head and Waikiki Beach. For 10 points, name this archipelago that includes the islands Oahu and Maui.**

ANSWER: **Hawaiian** Islands [accept **Hawaii**; accept **Hawaiian** Archipelago]

<TH, Geography>

8. This event resulted in the formation of a dense mass of corium named for its resemblance to an elephant's foot. The *samosely* were most heavily affected by this event, whose aftermath was mitigated by the Liquidators. This event resulted in a reevaluation of all Generation II, graphite moderated facilities in the country in which it occurred. Nobel Laureate Svetlana (*) Alexievich interviewed over 500 individuals for an oral history named for "Voices from" the location of this event. The town of Pripyat was evacuated and a namesake exclusion zone was established as a result of this 1986 event. For 10 points, name this event that involved a catastrophe meltdown of a Ukrainian nuclear reactor.

ANSWER: Chernobyl disaster [accept any answer indicating an accident at the Chernobyl Nuclear Power Plant]
<TH, European History>

9. The longest poem by this author centers on a discussion between Tibbets and a Phantom about the differences between humans and ghosts; that poem is titled *Phantasmagoria* ("FAN-tazz-moe-gor-ree-uh"). This author described a person who "look[s] for butterflies / that sleep among the wheat" in the song "Haddock's Eye," which appears in one of his novels. In another poem, a character notes "The time has come [...] To talk of many things" such as "shoes and (*) ships and sealing wax." In this author's best-known poem, he describes how some "slithy toves / Did gyre and gimble" and notes that a "vorpal blade went snicker-snack!" For 10 points, name this author of "The Walrus and the Carpenter" and "Jabberwocky."

ANSWER: Lewis Carroll [or Charles Lutwidge Dodgson]
<JH, Poetry>

10. A sand pinch-out or channel margin might be mistaken for one of these structures when measuring the rate of pressure build up in a shut oil well. Ring-like types of these structures can form after the magma chamber below a caldera empties. Basin and range topology consists of alternating (*) grab-ens and horsts that lie between these structures. The position of the hanging wall and foot wall is used to classify these structures into their dip-slip and strike-slip types. Seismic traces are used in oil fields to detect, for 10 points, what fractures in bedrock whose movement causes earthquakes?

ANSWER: faults [accept ring faults; accept dip-slip faults; accept strike-slip faults]
<JS, Other Science Earth Science>

11. A composer from this modern day country memorialized the bayonetting of one of his countrymen with a two movement piano sonata with movements titled "Foreboding" and "Death." A low brass fanfare over percussion opens a five movement orchestral work from this country dedicated to its military by the composer of the *I.X.1905* sonata. A composer from this country used Old Church Slavonic in the text of his (*) *Glagolitic Mass*, though he is best known for his *Sinfonietta*. Harps accent an ascending flute melody in the opening of "The Moldau", the second movement of a six part patriotic tone poem depicting sites in this country. For 10 points, name this central European country home to Leos Janacek and Bedrich Smetana.

ANSWER: Czech Republic [accept Czechia; accept Czechoslovakia]
<TH, Classical Music>

12. The monastery of San Donato a Scopeto commissioned a painting by this artist which featured the ruins of the Basilica of Maxentius and a palm tree behind the Adoration of the Magi. This artist painted the face of the leftmost angel in his teacher Verrocchio's painting *The Baptism of Christ*. After leaving Florence for (*) Milan, this artist completed a painting in which the Virgin reaches for the baby Jesus who clutches a lamb by the ear. Another painting by this artist shows Mary and Christ flanked by an angel and John the Baptist in front of a craggy landscape. For 10 points, identify this Renaissance artist of *Madonna and Saint Anne* and *Madonna of the Rocks*, who also depicted an enigmatic smile in the *Mona Lisa*.

ANSWER: Leonardo di Vinci [accept either underlined part]
<TH, Painting>

13. An animal of this kind named Archy befriends the alley cat Mehitabel and types poems in all lowercase in a series of humorous columns by Don Marquis. The narrator has a crisis after killing one of these animals in the Brazilian novel *The Passion According to G.H.*, after which she eventually eats it. In a different work, a character who resembles one of these animals plunges his head in a bowl of milk and bread left out by his (*) violin-playing sister Grete. In a novella, a traveling salesman that resembles one of these animals is pelted with apples thrown by his father. In *The Metamorphosis*, Gregor Samsa awakes to find himself turned into, for 10 points, what many-legged animal?

ANSWER: cockroach [accept bug, insect, beetle, or arthropod; accept vermin]

<TH, Mixed Lit>

14. Robert Biel has critiqued the Eurocentrism in the theories of this thinker, but maintains that this thinker's work can still be applied universally. In *Caliban and the Witch*, Silvia Federici expands upon this man's theory of primitive accumulation to account for gender. György Lukács developed a "western" school named for this thinker, and Lukács drew largely from this thinker in his work *History and (*) Class Consciousness*. Building on the work of Adam Smith, this thinker elucidated the essential contradiction of capitalism as the conflict between productive forces and production relations. For 10 points, name this 19th-century political philosopher who wrote *Das Kapital* and collaborated with Friedrich Engel on *The Communist Manifesto*.

ANSWER: Karl Marx

<JS, Philosophy>

15. Two men are stabbed to death in a tense scene set inside one of these places in the Korean film *I Saw the Devil*. A long take from the Joseph H. Lewis film *Gun Crazy* is shot from inside one of these places as Peggy Cummin's character has a conversation with a police officer. The opening shot of (*) *A Touch of Evil* shows a mysterious man placing a time bomb inside one of these places. Marlon Brando's "I coulda been a contender" speech from *On The Waterfront* is given in one of these places. One of these places is where a discussion of the "royale with cheese" and an accidental gunshot to the head take place in *Pulp Fiction*. For 10 points, name these vehicles that are central to chase scenes in many action movies.

ANSWER: inside a car [accept inside an automobile; accept back seat of a car; accept taxi; prompt on street or road]

<TH, Film>

16. Masuda and Hasegawa observed the self-formation of honeycomb-structured anodic porous alumina in a solution of this compound. Many researchers caution against the use of stratospheric aerosol injection because it can produce this compound in the atmosphere. This compound is produced in the Glover tower before it is circulated through the Gay-Lussac tower, which mixes this compound with (*) nitric oxide and releases nitrogen gas. Another method of producing this compound uses vanadium pentoxide as a catalyst and produces oleum as a byproduct. This product of the lead chamber and contact processes is the only strong di-protic acid. For 10 points, name this corrosive compound with formula H·2·S·O·4.

ANSWER: sulfuric acid [or H·2·S·O·4 before read; accept vitriol]

<LL, Chemistry>

17. **15 were killed when sharpshooters atop this country's National Stadium opened fire on a protest march, in an event dubbed this nation's "Mother's Day Massacre." A widely protested infrastructure project in this country that would connect Punta Gorda and Brito is being funded by Chinese billionaire Wang Jing. This country's ruling (*) FSLN party has expelled U.N. officials who published a negative report on violent practices used to quell protests that began in April 2018 after cuts to this country's pension program. The embattled president Daniel Ortega leads, for 10 points, what non-Panamanian country in Central America, where a planned canal would pass through its namesake lake?**

ANSWER: Republic of Nicaragua

<TH, Current Events>

18. **Author Jon Negroni is best known for his elaborate claims about this company, which he first presented in a 2013 blog post. This company cancelled production of *Newt* due to its similarity to a 2011 film by Blue Sky Studios. This studio's experimental SparkShorts division created the recent films *Purl* and *Kitbull*, both of which premiered on YouTube. A (*) theory about this studio claims that a 2-year old girl named Mary Gibbs from one of its films became a witch and time traveled to ancient Scotland. Common easter eggs that appears in films by this studio includes A113, the Luxo Ball, and the restaurant Pizza Planet. For 10 points, name this animation studio known for creating *The Incredibles* and *Toy Story*.**

ANSWER: Pixar Animation Studios

<LL, Pop Culture Movies>

Warning: two answers required.

19. **At a press conference, one of these figures modestly explains that the other performed an action "one ten-thousand-trillionth of a second later" in a very short story by Augusto Monterroso. Lewis Carroll wrote a dialogue discussing the foundations of logic featuring these two characters, who also appear in a series of interspersed dialogues in (*) *Gödel, Escher, Bach*. A thought experiment involving these two figures is premised on the assertion that motion is a supertask, thus making it impossible for one to catch up to another, even with a 100 meter head start. For 10 points, name these two racing figures who appear in one of Zeno's paradoxes, a warrior from *The Iliad* and a slow reptile.**

ANSWER: Achilles and the tortoise [prompt on partial answer; accept turtle instead of tortoise]

<TH, Mixed Academic>

Description acceptable.

20. **Numerous Sufi *khanqahs* ("kaan-kaas") were constructed as a result of Muhammad bin Tughluq's ("TOOG-looks") foolish efforts to perform this type of action in 1327, which failed due to a lack of water. Due to 1961's incredibly destructive Hurricane Hattie, George Cadle Price lobbied for English support to undertake this type of project in Belize. The Portuguese architecture firm FAT is spearheading one of these projects in Equatorial Guinea that is intended to give more (*) political power to the people of the Rio Muni region. One effort of this type involved a city known as the "window to Europe" being constructed upon the Neva River by a certain Tsar. For 10 points, Peter the Great performed what action that resulted in St. Petersburg eclipsing Moscow as the seat of the Russian government?**

ANSWER: moving to a new capital [accept building a new capital, switching to 21 capitals, or anything illustrating the creation of a new capital; prompt on migration with "Migrating to where?"; prompt on building a road with "Where did that road lead to?"; prompt on building a city with "What type of city?"]

<TM, Other History>

21. A scholar from this country documented the world-view of a 16th century miller in his microhistory *The Cheese and the Worms*. An earlier thinker from this country wrote about his theory of the “atavistic born criminal” and founded a school of criminology named for this country. A thinker from this modern day country attempted to unify the humanities in a framework that would explain the cyclical nature of history in his book *The (*) New Science*. A communist from this country explained his theory of cultural hegemony in his influential *Prison Notebooks*. A writer from this modern day country famously discussed whether it is better to be feared or loved in his book *The Prince*. For 10 points, name this country once home to Niccolò Machiavelli.

ANSWER: Italy

<TH, Mixed Social Science>

22. In rectangular waveguide solutions for which only this quantity is transverse, the lowest cutoff frequency occurs for the 0-1 mode and has a value of c/π over the longer dimension of the rectangle. Integrating around a pillbox shows that this quantity’s perpendicular component is discontinuous across interfaces. Since this quantity has zero curl, the curl of the polarization density is equal to the curl of the (*) displacement field. The divergence of this quantity is equal to ρ/ϵ_0 by Gauss’ law. The line integral of this quantity from infinity to x gives the electric potential at x . This field is drawn with arrows pointing away from positive charges. For 10 points, what is this vector field generated by time-varying magnetic fields?

ANSWER: electric field [accept E field]

<JS, Physics>

23. This character states “I am too old to be content with play, too young to be without desire” after being approached by a figure dressed as a Spanish cavalier. This character is disgusted after a red mouse emerges from the mouth of a naked witch he is dancing with atop Mount Brocken. This character urges his lover to escape a dungeon with him after she had been imprisoned for infanticide. This character drinks a (*) potion to restore his youth so that he can seduce a girl known alternatively as Marguerite or Gretchen, and he makes a deal with a figure who follows him into his study in the form of a black poodle. For 10 points, name this dissatisfied scholar who makes a wager with Mephistopheles in a play by Goethe.

ANSWER: Johann Faust [accept either underlined part; accept Doctor Faust; accept Heinrich since this is what Gretchen calls him; do NOT accept or prompt on “Doctor Faustus”]

<TH, Drama>

24. A standard textbook used to teach this practice was written by George Belch. A “life cycle” model of this practice divides its effectiveness into introduction, growth, maturity and decline phases. The first section of a 1999 book by Naomi Klein argues that companies have been successful in implementing this practice in schools. The success of this component of the (*) “promotional mix” can be quantified by the AIDA and DAGMAR models. Utility companies printing brochures on saving energy is an example of the “institutional” type of this practice. This practice may use sex appeal to aid in brand recall for consumers. For 10 points, name this component of marketing that uses a non-personal message to promote a product, service or idea.

ANSWER: advertising [accept ads; accept advertisement; accept commercials; prompt on marketing; prompt on promotion; accept Advertising and Promotion as that is the title of the text referenced in the first line]

<TH, Economics>

BONUSES:

1. Art historian Kenneth Clark wrote an influential study on artistic subjects depicted in this way. For 10 points each:

[10] A poster by the Guerilla Girls rhetorically asks if women must appear in this state to get in the Met, noting that 85% of figures depicted in this way in the Met's collection are women, while only 5% of the art on display was created by females.

ANSWER: **nude** [or **naked**]

[10] The Met is located in this city, which is also home to the Whitney and the Guggenheim, whose spiral ramp was designed by Frank Lloyd Wright.

ANSWER: **New York** City [accept **NYC**]

[10] The Guerilla Girls' feminist institutional critique posters draw from this American conceptual artist known for placing bold-faced black, white and red text over a variety of images, such as in her work *Your Body is a Battleground*.

ANSWER: Barbara **Kruger**

<TH, Painting + Other Art>

2. Name some scientists of the "Romantic Generation" that are profiled in Richard Holmes' book *The Age of Wonder*. For 10 points each:

[10] This botanist aboard James Cook's *Endeavour* collected thousands of plant and animal samples from Tahiti and Australia. He served as the President of the Royal Society for 41 years and brought the Kew Botanical Gardens to prominence.

ANSWER: Joseph **Banks**

[10] A chapter of Holmes' book profiles this chemist "on the Gas." He pioneered the field of electrochemistry and was the first to isolate sodium and calcium. He also invented a namesake type of mining lamp.

ANSWER: Sir Humphry **Davy**

[10] Several chapters of *The Age of Wonder* are dedicated to William and Caroline Herschel, the former of whom discovered this seventh planet from the Sun, whose moons include Titania and Oberon.

ANSWER: **Uranus**

<TH, Mixed Academic>

3. Paul Pena is a devotee of the Tuvan example of this type of music, which is divided into khoomei, kargyraa, and sygt styles. For 10 points each;

[10] This genre of overtone singing is most commonly associated with Tibetan monks, and involves a single person singing harmonic melodies over a fundamental vocal drone.

ANSWER: **throat** singing [accept Tuvan **throat** singing or Tibetan **throat** singing]

[10] The Sygyt style of throat singing is similar to this type of singing that Jimmie Rodgers popularized in the US. This style of singing involves rapid changes in pitch between falsetto and chest register, and was widely used in "singing cowboy" films from the 1930s and 40s.

ANSWER: **yodeling** [accept blue **yodeling**]

[10] This country-western singer was called "Oklahoma's Yodeling Cowboy", and recorded hits like "Deep in the Heart of Texas" and "Back in the Saddle Again," though today he may be better known for his classic recordings of "Here Come Santa Claus" and "Rudolf the Rednosed Reindeer."

ANSWER: Gene **Autry**

<JH, World and Folk Music>

4. Women often experience flushing or hot flashes in the lead-up to this period due to lower levels of estradiol. For 10 points each:

[10] Give this term for the time in a woman's life when menstrual periods permanently cease. This period usually occurs around age 50 and its symptoms are sometimes treated with hormone therapy.

ANSWER: **menopause** [or **climacteric**]

[10] During menopause, the body largely stops producing estrogen and this other female sex hormone, which is responsible for promoting the formation of the endometrium in menstruating women.

ANSWER: **progesterone**

[10] A long term consequence of the loss of protective sex hormones after menopause is an increased risk of this condition, a narrowing of the arteries due to the buildup of plaque.

ANSWER: **atherosclerosis** [or **arteriosclerosis**; accept **arteriosclerotic vascular disease** or **A·S·V·D**]

<TH, Biology>

5. The Lamaze ("Luh-MAHS") method was developed to psychologically prepare patients for the fear and pain involved in this event. For 10 points each:

[10] Name this life event that, according to Otto Rank, causes psychological harm to all involved individuals, leading them to spend their lives trying to work through it, in a 1924 book titled for the "trauma" of it.

ANSWER: **birth** [accept child**birth**; prompt on labor or pregnancy]

[10] Developmental psychologists often study the attachment that develops between infant and caregiver after birth. The theory of attachment was partially developed by this psychologist, who developed a "Strange Situation" in which infants were separated from their caregivers.

ANSWER: Mary **Ainsworth**

[10] After birth and until age two, babies are in the sensorimotor stage according to this widely-cited Swiss psychologist known for his four stage theory of development.

ANSWER: Jean **Piaget**

<TH, Psychology>

6. This man told Edwards Pierrepont to "Let no guilty man escape," following accusations that his private secretary was involved with a network of bribes centered around alcohol distilleries in St. Louis, Missouri. For 10 points each:

[10] Name this Republican president, whose secretary, Orville Babcock, played a large role in the Whiskey Ring scandal. This president had earlier led the Union Army to victory as Commanding General during the Civil War.

ANSWER: Ulysses S. **Grant** [accept Hiram Ulysses **Grant**]

[10] Not to be confused with a completely unrelated French bank, the Grant-era Crédit Mobilier scandal centered around the bribery and overcharging utilized by Union Pacific during the construction of this thing, which had been ceremoniously finished via a "Golden Spike" in Promontory Summit, Utah.

ANSWER: First **Transcontinental Railroad** [accept Great **Transcontinental Railroad**; accept "**Pacific Railroad**"; accept **Overland Route**; prompt on railroad by itself]

[10] Arguing that much of Grant's negative reputation came from salty Confederates, this historian released a comprehensive biography of Grant in 2017, titled *Grant*. He won the Pulitzer Prize for Biography for his massive *Washington: A Life*, and his biography of Alexander Hamilton served as the inspiration for the 2015 musical.

ANSWER: Ronald **Chernow** [accept Ron **Chernow**]

<JH, American History>

7. After leaving his sheltered palace life with his charioteer Channa, a future religious leader observed these things. For 10 points each:

[10] Name this numbered group of observances made by a young Brahmin prince, which revealed to him the nature of suffering. This group includes an old man, a sick man, a dead body, and an ascetic.

ANSWER: the **Four Sights**

[10] Observing the Four Sights was part of the path of enlightenment of this figure, whose teachings were compiled into the Pali Canon. He founded a major world religion that has Theravada and Mahayana branches.

ANSWER: the **Buddha** [accept either underlined part of **Siddhartha Gautama**; accept either unlined part of **Shakyamuni Buddha**]

[10] The Gautama Buddha taught about this other numbered list of propositions that state that people crave worldly things, and that the only way to escape *samsara* and achieve *nirvana* is through the succession of desires.

ANSWER: the **Four Noble Truths** [accept *catvāri āryasatyāni*; accept *cattāri ariyasaccāni*]

<TH, Religion>

8. This poem's title character shoots an albatross that helps guide the ship out of an ice jam. For 10 points each:

[10] Name this long poem. Its speaker states "Water, water, every where, / Nor any drop to drink."

ANSWER: *The Rime of the Ancient Mariner*

[10] *The Rime of the Ancient Mariner* was first published in this collection of Romantic poetry. Though Samuel Coleridge wrote *The Rime of the Ancient Mariner*, most of the poems in the original collection were written by William Wordsworth.

ANSWER: *Lyrical Ballads*

[10] *Lyrical Ballads* features this conversation poem by Coleridge, in which the speaker asserts "In nature there is nothing melancholy" after encountering a "most musical" bird.

ANSWER: *The Nightingale: A Conversation Poem*

<CW, Poetry>

9. For 10 points each, answer some questions about zoos in literature:

[10] After meeting at the Museum of Art, Holden takes his sister Phoebe to the zoo in this J.D Salinger novel.

ANSWER: *The Catcher in the Rye*

[10] The father of the protagonist of this author's novel *The Life of Pi* had previously worked at Pondicherry Zoo, influencing his later relationship with a tiger named Richard Parker.

ANSWER: Yann **Martel**

[10] Kostoglotov visits a zoo and reflects on human cruelty after being released from the title institution in this Soviet novel. In this novel, the protagonist has affairs with the nurse Zoya and the middle-aged doctor Vera.

ANSWER: *Cancer Ward* [or *Rákovy kórpus*] (by Alexander Solzhenitsyn)

<JH, Long Fiction>

10. This thought experiment implies that some beliefs do not supervene on intrinsic facts. For 10 points each:

[10] Name this thought experiment that envisioned a planet where there exists a molecule called XYZ that shares all of its macro-scale properties with H₂O. Hilary Putnam devised this thought experiment to argue for semantic externalism.

ANSWER: **Twin Earth** thought experiment

[10] In *Intentionality: An Essay in the Philosophy of Mind*, this philosopher criticizes the Twin Earth experiment by arguing that water can refer to anything with the basic properties of water. He is better known for formulating the Chinese Room Argument.

ANSWER: John **Searle**

[10] The Chinese Room Argument is a thought experiment that argues against the possibility of a ‘strong’ form of this concept. The weak form of this concept refers to computers that simulate thought rather than truly understanding language or reality.

ANSWER: **artificial intelligence** [prompt on partial answer; accept **AI**]

<JH, Philosophy>

11. The Ottoman leader of this city, Dey Hussein, insulted the consul of a foreign power by striking him with a flyswatter in an incident that led to an 1830 invasion of this city. For 10 points each:

[10] Name this city of the Maghreb, that served as a major hub of piracy during its Ottoman period, along with nearby Tunis and Tripoli. Holy Roman Emperor Charles V was defeated by this city’s Pasha Hassan during a failed 1541 invasion.

ANSWER: **Algiers** [accept **Alger**]

[10] The 1830 invasion of Algiers was carried out by this colonial power, which proceeded to conquer Tunisia and Libya in the following decades. Shortly after the Algerian invasion, this country’s king Charles X was overthrown and replaced with Louis Philippe.

ANSWER: **France** [accept **French** Empire; accept **French** Kingdom; do NOT accept or prompt on answers that mention “France” and a “Republic” of any number]

[10] During the much later Algerian War for Independence, this dissident group carried out numerous terrorist attacks, such as a 1962 assassination attempt on Charles de Gaulle. In light of their motto, “Algeria is French and will remain so,” most of their attacks were motivated by salt following their failure in the 1962 Evian Accords.

ANSWER: **Organisation Armée Secrète** [accept **O.A.S.**; accept **Secret Armed Organization**]

<TH, World History>

12. The Dirac equation is the relativistic generalization of this equation. For 10 points each:

[10] Name this partial differential equation central to quantum mechanics. Its time independent form can be stated as the Hamiltonian of the wave function equals the energy eigenvalue of the wave function.

ANSWER: **Schrödinger**’s equation

[10] The probability of this phenomenon occurring is calculated by using the WKB method to solve Schrödinger’s equation and determine how much of the wave function lies outside of the barrier. Gamow explained alpha decay in terms of this phenomenon.

ANSWER: quantum **tunneling**

[10] Since wave functions are this type of quantity, any wave function can be written as a linear combination of other wave functions. The absolute square of this type of quantity is a probability density.

ANSWER: **probability amplitude** [do NOT accept or prompt on partial answer]

<LL, Physics>

13. While some sources indicate that a king of this city was the son of a enslaved woman named Ocrisia, others indicate that that same king was born after a Vestal Virgin was impregnated by a disembodied phallus. For 10 points each:

[10] Name this city that was once led by Servius Tullius. Legendarily, this city was named after its first king, who had settled an argument over the defensive capabilities of his walls by murdering his brother, Remus.

ANSWER: **Rome**

[10] As the 6th king of Rome, Servius Tullius was preceded and succeeded as king by two men that shared this common name. The later of those two, known as “the Proud,” would be overthrown after his son Sextus, who also shared this name, raped the noblewoman Lucretia.

ANSWER: **Tarquinius** (TAR-qwin) [accept **Tarquin**; accept Lucius **Tarquinius** Superbus; accept Lucius **Tarquinius** Priscus; accept Sextus **Tarquinius**]

[10] After being thrown down the Senate steps by Tarquinius Superbus, and then being murdered by Tarquin’s assassins, Servius Tullius saw his body undergo this ignominious action by his daughter Tullia Minor. A description is acceptable.

ANSWER: She **ran over** his body with a carriage/chariot [accept descriptive answers]

<JH, Ancient History>

14. Answer some questions about big men who are still relevant in today’s NBA despite the dominance of outside shooting. For 10 points each:

[10] This center might be the best passing center in today’s game, as demonstrated by his pinpoint full court pass to Jamal Murray earlier this year. This center has led his team to their first playoff berth since the 2012-2013 season, when Ty Lawson and Andre Iguodala played for this center’s team.

ANSWER: Nikola **Jokić** (“YOH-kitch”) [accept The **Joker**]

[10] This star-studded team added one of the best centers in the league, Boogie Cousins, to their roster during the summer of 2018. Other all-stars on this Bay Area team include Steph Curry, Klay Thompson, and Kevin Durant.

ANSWER: **Golden State Warriors** [accept either underlined portion; accept **GSW**]

[10] Some argue that the best center in the league is this player, whose supporting cast in New Orleans includes Jrue (“drew”) Holliday and Nikola Mirotić (“miro-titch”). In 2019, this center was involved in trade rumors with the Lakers.

ANSWER: Anthony **Davis** [prompt on The **Brow**]

<JS, Pop Culture Sports>

15. Environmental activists in the United States are proposing drastic solutions to combat climate change. For 10 points each:

[10] This proposed solution to combat climate change is named in analogy to a series of social programs used to fight poverty during the Great Depression. It is sponsored in part by Ed Markey.

ANSWER: **Green New Deal**

[10] The Green New Deal’s foremost advocate in Congress has been this freshman New York Congresswoman, sometimes known by her initials.

ANSWER: Alexandria **Ocasio-Cortez** [lovingly accept **AOC**]

[10] The Green New Deal is not an entirely new idea; in 2007 this *New York Times* columnist and author of *The World is Flat* proposed a Green New Deal, and likely coined the term.

ANSWER: Thomas **Friedman**

<JM, Current Events>

16. The limit at which this process occurs is analogous to the Roche limit for electromagnetic interactions. For 10 points each:

[10] Name this process, which some astronomers observed happening to a star with the V·L·B·A in 2018. Extreme tidal forces near black hole event horizons lead to this process of vertical strengthening and horizontal compression.

ANSWER: **spaghettification** [accept **noodle** effect; accept **tidal disruption** event]

[10] Layers in the inner crust of these objects are named for resembling gnocchi (“nyo-key”) and lasagna. Assuming particles in non-rotating examples of these objects behave like a degenerate cold Fermi gas, Oppenheimer and Volkoff determined an upper bound on their mass.

ANSWER: **neutron stars** [accept **pulsars**; accept **magnetars**; prompt on **stars**]

[10] A candy bar shares its name with this spiral galaxy, which is scheduled to collide with the Andromeda galaxy in 4 billion years. Our Solar System lies within this galaxy.

ANSWER: **Milky Way** Galaxy [accept other languages names for it upon lookup]

<TH, Other Science: Astronomy>

17. Metro station are often locations of acclaimed public artworks. For 10 points each:

[10] A metro station in this country’s city of Kaohsiung (“KOW-shung”) was designed by Narcissus Quagliata. That station here features the *Dome of Light*, which is currently the world’s largest glass art work.

ANSWER: **Taiwan** [accept **Republic of China**; do NOT accept or prompt on “China”]

[10] Toledo Station is one of many “Art Stations” in this city’s metro system. After visiting the Palace of Caserta and the Piazza del Plebiscito in this capital of Campania, you can take a train to visit Mount Vesuvius, which can also be found nearby.

ANSWER: **Naples** [or **Napoli**; or **Neapolis**]

[10] This Russian city’s Avtovo station features glass columns, chandeliers, and white marble walls. It also features a mosaic commemorating the Leningrad Blockade at the end of its platform.

ANSWER: Saint **Petersburg** [prompt on **Leningrad**]

<LL, Geography>

18. This monarch granted a monopoly on music publishing to Thomas Morley, who compiled a collection of 25 vocal pieces by 23 composers, all of which ended with the lines “Then sing ye shepherds and nymphs of Diana / Long live fair Oriana.” For 10 points each:

[10] Name this monarch whose court composers included Thomas Tallis and William Byrd. John Dowland wrote hundreds of songs for lute while working in the court of this monarch.

ANSWER: **Elizabeth I** [prompt on **Elizabeth**]

[10] The works in the Elizabeth-praising collection *The Triumphs of Oriana* are pieces of this type from a namesake English “school” named for them. These secular vocal pieces originating in Italy are often contrasted with sacred motets.

ANSWER: **madrigals**

[10] Elizabethan-era composer Thomas Tallis’s 40 voice motet “Spem in alium” was initially arranged for this many voice types. This is the number of lines on a music staff and the number of notes in a pentatonic scale.

ANSWER: **five**

<TH, Classical Music>

19. These figures are resurrected as catfish and later dancers after jumping into a fire instead of jumping over an oven four separate times. For 10 points each:

[10] Name these figures that, in a different story, use leaf-cutter ants to sneak past some guards to steal flowers. These figures are beheaded by Camazotz in the House of Jaguars and the House of Bats.

ANSWER: Maya **Hero Twins** [accept **Hunahpu** and **Xbalanque**; prompt on partial answer]

[10] The stories about the Hero Twins appear in this collection of K'iche Mayan myths that also contains an account of the creation of the world.

ANSWER: **Popol Vuh**

[10] In the *Popol Vuh*, the Hero Twins play the ball game with the Lords of Xibalba, which is one of these places. In Aztec myth, Mictlan is one of these places where the dead encounter rivers of blood and winds that blow around knives.

ANSWER: **underworld** [accept answers like **hell** or the **afterlife**]

<JH, Mythology>

20. In a play by this author, the rustic Demea gives his elder son Aeschinus over to his bohemian brother Micio, after which Aeschinus begins a life of crime and cavorting. For 10 points each:

[10] Name this playwright of *The Brothers*. This notoriously handsome man of Berber descent was freed from slavery and went on to write *The Self Tormentor* and *The Girl from Andros*.

ANSWER: **Terence** [or Publius **Terentius** Afer]

[10] Terence developed his comedies from the works of this other playwright who wrote about a braggart soldier in *Miles Gloriosus* and about a miserly patrician in *Pot of Gold*.

ANSWER: **Plautus** [accept Titus Maccius **Plautus**]

[10] Both Terence and Plautus wrote in this dead language which was also used by the tragedian Seneca the Elder, who worked under Emperor Nero.

ANSWER: **Latin**

<TH, Drama>

21. The Battle of Prokhorovka, part of the larger Battle of Kursk, was one of the largest clashes of these vehicles in history. For 10 points each:

[10] Name these armored combat vehicles. In World War II, the Wehrmacht deployed a class of these vehicles called the Panzer, which were widely deployed at Kursk.

ANSWER: **tanks**

[10] This Soviet general led the forces that were successful in repelling the German offensive at Kursk. He later commanded the 1st Belorussian Front during the Battle of Berlin, forcing the Nazi surrender.

ANSWER: Georgy **Zhukov**

[10] The defeat of the Germans at Kursk foiled this operation, the first German offensive on the Eastern Front following the failure of the Siege of Stalingrad.

ANSWER: Operation **Citadel**

<JH, European History>

22. The rule against perpetuities is a notoriously difficult concept to apply in this area of law. For 10 points each:

[10] Name this area of law concerned with conveyancing, control of future use, and nonpossessory interests. The metaphor of the “bundle of rights” is commonly used to describe the complexities arising from the use of this branch of law’s subject.

ANSWER: **property** law

[10] Property law is concerned with personal property and property described by this word. Property described by this word encompasses land and fixtures and structures added to that land.

ANSWER: **real** property [accept **real** estate; accept **realty**, accept **immovable** property]

[10] Property may be transferred to heirs through one of these legal documents in which testators express their wishes on how their property should be distributed after death.

ANSWER: **will** and testament [prompt on **testament**]

<TH, Law>

23. One of these animals tells a baobab tree the story of killing dozens of villagers while working as a “harmful double” for Kibandi. For 10 points each:

[10] Name this animal that titles an Alain Mabanckou novel about its “memoirs.” In a play, George tells Nick the story of a boy who swerves his car and dies trying to avoid one of these animals.

ANSWER: **porcupine**

[10] The Congolese author Alain Mabanckou also wrote a novel titled for an “African” one of these people. Bret Easton Ellis is best known for a violent novel about Patrick Bateman titled for an “American” one of these people.

ANSWER: **psycho** [accept *African Psycho*; accept *American Psycho*; prompt on serial **killer** by asking for the title of either book]

[10] Alain Mabanckou writes in this language. The Negritude poets Leopold Senghor and Aime Cesaire also wrote in this European language.

ANSWER: **French**

<TH, Mixed Lit>

24. Soft forms of this process like MALDI (“mall-dee”) are used to prepare large biological molecules for use in a certain technique. For 10 points each:

[10] Name this process, one form of which applies a high voltage to an electrospray to create an aerosol. Shielding lowers the energy associated with this process that increases from left to right across a period.

ANSWER: **ionization** [accept **ionization** energy]

[10] Electrospray ionization and other soft ionization techniques reduce the amount of this phenomenon. This phenomenon occurs when unstable molecular ions dis-sociate.

ANSWER: **fragmentation** [accept **fragments**]

[10] Ionization must be performed on chemical species before performing this technique. This form of spectrometry analyzes ions based on the ratio of its namesake property to charge.

ANSWER: **mass** spectrometry [accept **mass** spec; accept **mass** spectroscopy]

<JS, Chemistry>