**Chicago Open 2016: "An Insatiable Kingpin of International Meme-Laundering"**

**Packet by "God of / Small Things / True Care / Truth Brings" (Billy Busse, Rob Carson, Andrew Hart, Tejas Raje)**

**Edited by John Lawrence, Mike Cheyne, Matt Jackson, Adam Silverman, Mike Bentley, Aaron Rosenberg, Jake Sundberg, and Shan Kothari, with contributions from Ewan Macaulay and Jonathan Magin**

**Tossups**

1. **When one character tries to draw attention to this object, another character ignores him and says “it’s never the same pus from one second to the next.” Characters imitatively “do” this object by staggering about on one leg as part of their “exercises,” while one of them asks “Do you think God sees me?” The original version of this object was made from coat hangers and tissue paper under the direction of Roger Blin. The second version of this object, which was destroyed during the May ‘68 student protests, was made of plaster by Alberto Giacometti. A discussion of which of two characters is** (\*) heavier follows after a man proclaims that an action involving this object would “give us an erection.” Between Acts One and Two of the play in which it appears, this object grows “four or five leaves.” Two men discuss hanging themselves from, for 10 points, what only piece of scenery in a play that features Vladimir and Estragon?  
ANSWER: the **tree** from ***Waiting for Godot*** [accept ***En attendant Godot*** in place of “*Waiting for Godot*”; prompt on tree]

2. **A Florida State center for researching this activity is run by Joseph K. Torgesen. The DRC computational model of one form of this activity is an approximation of a theory in which it is performed using a “dual route.” In a 1993 paper subtitled for the "Psychological Activities" of this activity, Richard Gerrig developed “transportation theory.” Techniques for improving the rate of this activity include meta guiding. The relative ease of performing this activity can be measured with the Dale-Chall formula or SMOG grades. While studying this activity, Louis Emile** (\*) Javal was the first to described rapid movements and short stops called saccades and fixations. The Flesch-Kincaid scale correlates grade level with, for 10 points, what activity which can be taught using the "look-say" method and phonics-based approaches, which the RSVP method claims to speed up by flashing one word on-screen at a time?  
ANSWER: **read**ing text [accept reasonable equivalents; accept **read**ing aloud; accept answers such as "teaching children how to **read**" or "**read**ing deficiencies" until "dual"]

3. **A member of this party was instrumental in the release of a documentary about drug culture whose title translates as *They Call Us Misfits*.Politicians from this party promoted the prewar “People’s Home” and the postwar “harvest time” visions, the latter of which was the brainchild of a leader of this party who was Prime Minister of his country for 23 straight years. While shopping for clothes in 2003, a member of this party named Anna Lindh was stabbed to death by a Serbian assassin. The “Folkhemmet” plan of this party’s leader, E.A. Hansson, called for an expansion of the** (\*)welfare state. Eugene de Kock claimed the South Africans were responsible for the unsolved shooting of an anti-apartheid leader of this party on the streets of Stockholm. For 10 points, name this left-leaning Scandinavian political party, whose past members included Tage Erlander and Olof Palme.  
ANSWER: **Swedish Social Democrat**ic Party [or **Swedish Social Democrats**; or **Social Democratic** Workers Party of **Sweden**; or Sveriges **socialdemokratiska** arbetareparti; or **socialdemokraterna**; or **SAP**; prompt on the Workers’ Party]

4. **This man is credited with laying out the fivefold system of worship used in Smartism. When this man was attacked by a crocodile, he asked his mother to let him become a *sannyasin*, after which the crocodile let him go. In one tale, this man's anger at a scholar offering grammar lessons for money led him to compose the devotional hymn *Bhaja Govindam*. This traveling man, who ended his life by attaining the state of *samadhi* in a Himalayan cave at age 32, was called Eka-Sruti-Dara as a child because he could remember any text after reading it once. This man’s work *Upadesasahasri* asserts that everything is an illusion except the *nirguna,* or "attributeless,"** (\*) Brahman. This author of the earliest surviving commentary on the Brahma Sutra is said to have founded four monasteries at the edges of India. For 10 points, name this 9th-century Hindu theologian who systematized the monist Advaita Vedanta philosophy.  
ANSWER: Adi **Shankara**charya [or **Sankara**; accept **Eka-Sruti-Dara** until mention]

5. **In 1995, Canadian composer John Rea produced a chamber re-orchestration of one of this composer's operas. After excerpts from one of this composer’s operas were banned by authorities, Erich Kleiber resigned as head of the Berlin State Opera. For his first opera, this composer called for an onstage marching band, tavern band, chamber orchestra, and out-of-tune piano. That opera by this composer contains a scene consisting of an invention on the note B natural, and uses a** **B -** (\*) F tritone to symbolize the protagonist’s relationship with his wife**.** One of his operas is centered exactly on a palindromic piano arpeggio that peaks at an extremely high D. His only finished opera ends with the title character walking into a pond and drowning after throwing away the knife he used to murder Marie. Another of his title characters is killed by Jack the Ripper. For 10 points, name this composer the operas *Wozzeck* and *Lulu*.  
ANSWER: Alban (Maria Johannes) **Berg**

6. **A murder in this city was one of the first to use dental evidence to identify a body; that case involved chemistry professor John White Webster’s supposed killing of Dr. George Parkman. The “Measuring Man” or “Green Man” committed rapes in this city. It was where as many as twelve children were killed by Jesse Pomeroy, the fourteen-year-old “boy fiend” of this city. The psychic Peter Hurkos incorrectly blamed other murders here on a shoe salesman. In the 1920s, the (\*)** “Securities Exchange Company” in this city claimed to be cashing in international reply coupons for postage stamps, but paid back early investors using late investors’ money. The “silk stocking murders” were supposedly committed by Albert DeSalvo in this city, which was where the original Ponzi scheme operator was based. For 10 points, name this city victimized by a 1960s “Strangler.”  
ANSWER: **Boston**

7. **Messages are a fundamental component of a variant of this thing created for use in routing by Farrel. Another variant, RFC 5234, adds elements such as incremental alternatives to it. Donald Knuth is credited with removing the word “normal” from the name of this system. The initial version of this thing was proposed at a UNESCO conference by an IBM engineer working on ALGOL 58. Niklaus Wirth tackled the “unnecessary diversity” in this system by adding an explicit iteration construct, basing it on ASCII, and not using a symbol for empty strings. Wirth proposed the** (\*) “extended” form of it. A variant of this system is used to specify the "rules" parameter passed to yacc. Symbols in this system are surrounded by angle braces, and ::= (colon-colon-equals) is used for "is defined as". For 10 points, name this doubly eponymous notation system for a context-free grammar.  
ANSWER: **Backus-Naur** form [or **Backus** normal form; or **Backus-Naur** notation; or **BNF**; or Extended **BNF**; or Augmented **BNF**; or Routing **BNF**]

8. **Aldous Huxley claimed that the author who wrote this event was “mentally drowned and blinded by the sticky overflowings of his heart” in “Vulgarity in Literature,” which takes this event and Poe’s versification as chief case studies. This event, which occurs on a couch dressed with “some winter berries and green leaves,” reflecting the affected character’s wish to “put something near me that has loved the light,” and is followed by a schoolmaster’s speech about “Heaven’s justice.” Americans waiting dockside for copies of** (\*) *Master Humphrey’s Clock* called out to ship passengers to ask if this event had occurred. The claim that only a person with “a heart of stone” could read of this event “without dissolving into tears...of laughter” was made by Oscar Wilde. This event befalls a girl who flees London with her grandfather to escape the money-lender Daniel Quilp. For 10 points, name this event that befalls the heroine near the end of Charles Dickens’s *The Old Curiosity Shop*.  
ANSWER: **death** of Little **Nell** [accept any answer mentioning the idea of **dying** and Little **Nell** or Nell **Trent**]

9. **After a scary dream, a wealthy king of this city tried to hide in his sister's pasture from a horde of *galla* demons, who eventually drag him to the underworld. Two kings of this city who share a name are known as "the Fisherman" and "the Shepherd". In this city, a foreign woman beats a sorcerer from Hamazi in a contest to summon animals by throwing fish spawn into a river. A king of this city is divinely ordered to begin or end the confusion of tongues by reciting the Incantation of Nudimmud. A later king of this city was able to travel through seven mountain ranges in a day after being awarded** **super** (\*) speed for taking care of the chick of the Anzu bird. Four poems describe a war between this city and Aratta sparked by this city's king Enmerkar. The most famous king of this city met the alewife Siduri while aiming to learn the secret of immortality. For 10 points, name this Sumerian city ruled by Dumuzid, Lugalbanda, and Gilgamesh.  
ANSWER: **Uruk** [or **Unug**; or **Erech**; or **Kulaba**; or **Unug Kulaba**]

10. **A critical point named for these substances is given by a power law that depends on the “front factor” and the relaxation modulus.** **These substances are the namesake of the Trommsdorff effect, in which free radical polymerizations auto-accelerate. These substances form when the branching coefficient is one over the number of reactive groups minus one by Flory-Stockmayer theory. Percolation theory explains why some of them are thermoreversible. Tetraethyl orthosilicate is used to synthesize ceramics in a transition named for these substances and (\*)** solutions. A class of these substances that “self-heal” are used as scaffolds in tissue engineering. They serve as the stationary phase in size-exclusion chromatography. These materials form in highly concentrated polymer solutions, like when you heat up agarose, then let it cool down and crosslink. For 10 points, name these colloidal dispersions of a liquid in a solid, which are used in electrophoresis.  
ANSWER: **gel**s [or hydro**gels**; or other types of **gel**s; prompt on polymers; prompt on colloids; prompt on dispersions]

11. **A daring escape from this battle was led by Marmaduke Thweng, who became the only one of his group of soldiers to survive. Walter of Guisborough’s account of this battle criticizes the inept deployments of the Earl of Surrey. Numerous chronicles say a man killed here had his body flayed and his skin turned into a sword belt. Another man believed to have died in this battle had unsuccessfully attacked (\*)** Urquhart Castle a few months before. A probably completely made up account of this battle describes a man using a spear to kill Hugh de Cressingham, a widely despised treasurer. That account of this battle by Blind Harry claims that the victors removed a pin to cause the enemy to fall into the River Forth. For 10 points, name this September 1297 battle, an early win for Andrew Moray and William Wallace in the First War for Scottish Independence.  
ANSWER: Battle of **Stirling Bridge**

12. **The man who discovered this protein, Leonard Skeggs, also invented the AutoAnalyzer. A competitive inhibitor for this protein—basically, the dipeptide proline-alanine, but with a sulfhydryl group—was one of the first pharmaceuticals designed using QSAR. A homolog of this protein is the receptor targeted by the SARS virus. This enzyme catalyzes the formation of Abeta-40 from Abeta-42, which explains why its inhibitors like** (\*) captopril increase susceptibility to Alzheimer's disease. This enzyme synthesizes an octapeptide by cleaving off a histidine and a leucine residue from its substrate's C terminus. It also breaks down bradykinin. This protease, which localizes mostly to the lungs, acts in combination with renin in the RAAS system. For 10 points, name this protein that forms angiotensin II from angiotensin I, which is inhibited by many anti-hypertensive drugs to lower blood pressure.  
ANSWER: **angiotensin-converting** enzyme [or **ACE**; do not accept or prompt on "angintensin I" or "angiotensin II" or "angiotensin"]

13. **A prophecy making female participant in this event was nicknamed Mama Future. Ear-severing enthusiast G. S. L. Griffiths participated in the Chuka Massacre during this event, one of the atrocities which prompted the McLean Court of Inquiry to be formed. Eleven prisoners were beaten to death at the Hoa detention camp during this event. At the beginning of this event, one hundred and sixty people were rounded up in Operation (\*)** Jock Scott. One leader of this event was nicknamed General China. Hundreds were killed at Lari in this rebellion, whose name means "greedy eating". Fred Kubai and Paul Ngei were two of the Kapenguria Six who were labeled as the ringleaders of this event. Many rebels in this event were driven away from the white-designated highlands as part of Operation Anvil. Early in this event, Jomo Kenyatta was arrested. For 10 points, name this uprising in colonial Kenya.  
ANSWER: **Mau Mau** Revolt [or **Mau Mau** uprising; or **Mau Mau** war; or the British suppression of the **Mau Mau** revolt; prompt on Operation Anvil before mentioned; prompt on the Kenyan Emergency]

14. **Anita Brookner’s reputation-restoring 1972 monograph on this artist argued that he went out of favor because we could no longer appreciate *sensibilité*. Emma Barker connected this artist's head studies of girls with the incest theme found in the writings of Jean-Jacques Rousseau. A rooster pecks at the floorboards in a painting by this artist where a young groom holds the dowry given to him by his father-in-law, who sits with outstretched arms. (\*)** Denis Diderot was the first to suggest that the title woman in a painting by this artist from the Salon of 1765 is disconsolate not because of the dead animal but because she has lost her virginity. A girl in white grasps at her crotch next to a damaged container in a similarly themed work by this artist of *Young Girl Weeping over Her Dead Bird*. For 10 points, name this 18th century French genre artist of *The Village Bride* and *The Broken Vessel*.  
ANSWER: Jean-Baptiste **Greuze**

15. **Deubel et al. pioneered the “direct laser writing” method for microfabricating these materials. Tuberfield and Denning fabricated these materials by applying a photoresist to the sample, and then exposing to an interference pattern formed by multiple coherent laser beams; that technique is called “holographic lithography.” These materials are used to construct air-guiding, hollow-core fibers. Cylindrical holes were arrayed in the pattern of a tetrahedral diamond** (\*) lattice to produce the first three-dimensional one of these materials, a feat achieved by Eli Yablonovich. A simple 1-D example of these materials contains alternating slabs with varying dielectric constants, which works since incident waves of certain wavelengths will destructively interfere with reflected waves, thus forming a frequency “band gap” which prevents propagation. For 10 points, name these materials through which light propagates in an analogous fashion to how electrons propagate in semiconductors.  
ANSWER: **photonic crystal**s [or **PC**s, do NOT prompt on “crystals”]

16. **One work in this volume claims that the “love experience” will be transformed when “girls” and “women” “will no longer mean the mere opposite of the male, but something in itself...the female human being.” The second of the works in this volume cautions against “let[ting] yourself be controlled by” irony “during uncreative moments” and claims that the two books always with the author are the Bible and the collected works of Jens Peter Jacobsen. The first of the ten works collected into this volume tells the addressee that “no one can advise or help you—no one,” and that “there is only one thing you should do:** (\*) go into yourself.” The ten missives in this work were the result of a connection suggested by a chaplain at an Austrian military institute, and it was published by Franz Xaver Kappus, the recipient of its contents. For 10 points, name this volume consisting of correspondence sent by Rainer Maria Rilke to a youthful writer.  
ANSWER: ***Letters to a Young Poet*** [or ***Briefe an Einen Jungen Dichter***]

17. **One set of this many pieces includes a “Rondo of the Sylphs” and ends with an “Elegy in Memory of Liszt.” A French composer’s *Symphony for Solo Piano* is part of a published set of this many pieces, which culminates in “The Feast of Aesop.” Sergei Lyapunov’s Opus 11 has this many pieces, because it was intended as a companion piece for an earlier set of this many pieces. A Scriabin set of this many pieces ends with the most famous piece in D-sharp minor. A set of this many pieces ends with (\*)** "Harmonies du Soir" and "Chasse-Neige.” Alkan’s Opus 35 and Opus 39 are each sets of this many etudes. A published set of this many pieces concludes with an etude inspired by the November Uprising, nicknamed “Revolutionary.” There are this many pieces in Liszt’s *Transcendental Etudes* and in each of Chopin’s Opus 10 and Opus 25 sets of etudes. For 10 points, name the number of pitches in a chromatic scale.  
ANSWER: **12**

18. **This work's author adapted Kant's example of seeing a ship in two different places, and knowing that it has travelled between them, to illustrate what he calls “a priori imagination.” This work criticizes Livy’s treatment of Rome as a ready-made character, as an example of “substantialism.” This work includes a story about a constable solving the murder of John Doe, to define a “critical” method. In this work, the author condemns those who cut out accounts that do not match their inductive generalizations, calling that a “scissors-and-paste” method. One of this work’s main theses is that the *a*** (\*) *parte objecti* and *a parte subjecti* forms of its topic are inherently intertwined. Unlike nature, which consists of events seen from the outside, the title subject of this work consists of human actions seen from the inside. It was collated after the author’s death by his student T.M. Knox. For 10 points, the title subject is defined as “the re-enactment of past experience” in what work by R.G. Collingwood?  
ANSWER: *The* ***Idea of History***

19. **In an opera libretto within a novel, this man dresses in a suit of armor and leaps from a flaming airplane over Africa. That libretto about this man was abortively begun as a child by a Czech immigrant named after Thomas Masaryk. A man named Sam claims to be “haunted by dreams” of this man, who is compared to “Clark Kent in a phone booth,” in the first line of Michael Chabon’s *The Amazing Adventures of Kavalier and Clay*, whose first section is titled after this man’s profession. In a novel, this man is told to “warn the** (\*) Duke” by Little Boy, presaging his meeting with Franz Ferdinand on a European trip. This man’s real-life attempts to expose fraudulent séances is fictionalized in a novel in which one of his performances is interrupted by the blowing up of a firehouse by a gang led by Coalhouse Walker. For 10 points, name this historical figure who appears in E.L. Doctorow’s *Ragtime*, a magician and escape artist.  
ANSWER: Harry **Houdini** [accept Erik **Weisz** or **Harry** Weiss]

20. **After doing community service in this country, Wayne Carlson began growing one of its native crops in Idaho where climates are similar. The endangered Walia ibex lives in the Simien Mountains in this country's north. This home country of the Irob people is currently building a namesake "Grand ... Renaissance Dam." Despite extracting oil there and watching two neighbors dispute it, this country has never claimed the oil-rich** (\*) Ilemi Triangle for itself. Bole International Airport serves this country, where the Awash River dries up in the volcanic Danakil Depression. The largest of this country's nine ethnically-based states, Oromia, borders its second largest city, Dire Dawa. In 2015, its government loosened a ban on exporting its native *teff* grain. For 10 points, name this country along the Great Rift Valley, which lost control of the ports of Massawa and Assab upon becoming landlocked in 1991.  
ANSWER: **Ethiopia** [or **Ītiyoṗṗya**; or Federal Democratic Republic of **Ethiopia**; or yeʾ**Ītiyoṗṗya** Fēdēralawī Dēmokirasīyawī Rīpebilīk]

21. **In a bizarre complex, this element binds two cyclopentadiene ligands and a ring containing five consecutive sulfur atoms. All three minerals in Synroc, a mixture used to store nuclear waste, contain this metal. It has the lowest atomic number of the elements that form bent metallocenes rather than sandwich complexes. Diethyl tartrate mixed with this element’s isopropoxide is used for stereoselective epoxidation. The principal chloride salt of this element is a yellow liquid that’s such a strong Lewis acid, it reacts with air moisture. A heterogeneous** (\*) catalyst with this transition metal as the active component is used for isotactic propylene polymerization. Liquid magnesium reduces the common +4 oxidation state of this element in its industrial synthesis, which starts by treating rutile with chlorine gas. For 10 points, name this transition metal whose dioxide is found in white paint and which is purified in the Kroll process.  
ANSWER: **titanium** [or **Ti**]

**Bonuses**

1. This system emerges from saying “no” to the “not itself” rather than from true self-affirmation, and it is explained by the analogy of lambs who label birds of prey “evil” for attempting to devour them. For 10 points each:  
[10] Name this ethical system that serves to protect the utility of the weakest beings rather than allowing the noble to pursue the original concept of “good.” The man who coined this term blamed the Jews for spearheading the “inversion of values” that lead to this system.  
ANSWER: **slave** morality [or ***Sklavenmoral***]  
[10] In Nietzsche’s *Genealogy of Morals*, slave morality originates from this emotional force, which he labelled with a French term. It denotes the “grudge” that the lambs bear against the birds of prey for eating them.  
ANSWER: ***ressentiment***  
[10] This UChicago Law professor, the author of *Naturalizing Jurisprudence*,cited Nietzsche's views of morality to disparage religious exemption laws in his book *Why Tolerate Religion?* Until his angry blogging drew too much ire in 2014, he made a yearly Philosophical Gourmet Report ranking philosophy departments.  
ANSWER: Brian **Leiter**

2. This man almost went to war over Navassa Island, which the United States had claimed on the grounds that guano was found there. For 10 points each:  
[10] What former general briefly restored the title of “emperor” in his country before abdicating in 1859 after facing a conspiracy against him by General Fabre Nicolas Geffrard?  
ANSWER: **Faustin** I [or Faustin-Elie **Soulouque**]  
[10] Faustin was the emperor of what country, whose first monarch was Jean-Jacques Dessalines?  
ANSWER: **Haiti**  
[10] After the murder of Dessalines, Haiti briefly fractured into a northern monarchy under Henri Christophe and a southern republic, led by this man. His successor, Jean-Pierre Boyer, successfully reunited Haiti.  
ANSWER: Alexandre **Pétion**

3. This play’s events are spurred on by Ann Deaver’s plans to marry Chris, even though she is engaged to Larry, an army pilot who disappeared during the war. For 10 points each:  
[10] Name this play by Arthur Miller, which centers on the consequences of a shipment of faulty engine parts that Joe Keller knowingly shipped to the military.   
ANSWER: ***All My Sons***  
[10] In *All My Sons*, Kate’s delusional hope that Larry may still be alive is fueled by this object created by neighbor Frank Lubey, which suggests that “favorable” conditions for the day that Larry disappeared.  
ANSWER: Larry's **horoscope**  
[10] *All My Sons* was the hit of the 1946-7 season, upsetting high expectations for this play by another author. It marked its author’s return to Broadway after a 12-year absence, and was his last play produced on Broadway in his lifetime.  
ANSWER: *The* ***Iceman Cometh*** [by Eugene O'Neill]

4. This theorem provides a link between the Eulerian and Lagrangian specifications of fluid flow. For 10 points each  
[10] Name this theorem, which simply states that the material derivative of some function F in a fluid equals the explicit time derivative of F within the control volume plus the flux of F through the control surface.  
ANSWER; **Reynolds transport** theorem  
[10] Application of this statement in the control volume approach to fluid mechanics yields the “steady flow energy equation.” This statement says that the change in internal energy of a system equals the sum of the heat supplied to the system and the work done on the system.  
ANSWER: **first** law of **thermo**dynamics  
[10] For a steady, adiabatic flow with no external work, the control volume approach shows that this quantity remains constant. It is the temperature that the fluid would reach if it were brought steadily and adiabatically to rest.  
ANSWER: **stagnation temperature**

5. In the second section of this story, which was collected in the volume *Friend of My Youth*, Joan joins a trip organized by the geologist John Brolier to see frazil ice on the Ottawa River. For 10 points each:  
[10] Name this story that takes its title from what Morris thinks were the first three words of a poem he and Joan's mother used to quote, replacing the poem's title character with the name of their eccentric neighbor Matilda.  
ANSWER: "**Oh, What Avails**"  
[10] “Oh, What Avails” is by the Canadian author of the short story collections *Dance of the Happy Shades, The Moons of Jupiter*, and *Runaway*.  
ANSWER: Alice (Ann) **Munro** [or Alice **Laidlaw**]  
[10] Eventually Joan remembers that "Ah what avails the sceptred race / Ah what the form divine! / What every virtue, every grace!" are the opening lines of "Rose Aylmer," a poem by this English writer of *Imaginary Conversations*.  
ANSWER: Walter Savage **Landor**

6. This battle led to the formation of the Joint Committee on the Conduct of the War. For 10 points each:  
[10] What relatively minor battle is best remembered for the death of Colonel Edward Baker, a sitting United States Senator? It was fought in Loudoun County and was also where Oliver Wendell Holmes Jr. was injured.  
ANSWER: Battle of **Ball’s Bluff** [or the Battle of **Harrison’s Island**; or the Battle of **Leesburg**]  
[10] The Committee on the Conduct of the War was chaired by this politician and future President Pro Tempore. Had Andrew Johnson been removed from the presidency during his impeachment trial, this man would have become the new President.  
ANSWER: Benjamin (Franklin) “Bluff” **Wade**  
[10] The Committee also investigated the disastrous Battle of the Crater during the Petersburg siege. That debacle ruined the career of this Union general, who was also incompetent as Army of the Potomac commander at Fredericksburg, leading to his replacement by Joseph Hooker.  
ANSWER: Ambrose **Burnside**

7. In papers published in 1994 and 2000, Peter Chesson pioneered the study of when this situation is possible. For 10 points each:  
[10] Name this situation that can occur with the aid of either stabilizing or equalizing mechanisms. Classically, Gause’s principle explains that this situation cannot occur for two species with the exact same niche.  
ANSWER: **coexistence** [or word forms; do NOT accept synonyms]  
[10] An equalizing mechanism for coexistence would reduce the difference in this quantity between two species. This quantity is broadly defined as a measurement of an individual’s potential reproductive success.  
ANSWER: **fitness**  
[10] Equalizing mechanisms also tend to reduce this quantity for two coexistent species in competition. This quantity, which was first theorized by David Tilman, is the minimum amount of a shared limiting resource at which a population can be stable.  
ANSWER: **R\*** [or **R-star**; prompt on partial answer]

8. For 10 points each, name these female figures revered in Mexico.  
[10] Juan Diego saw this Nahuatl-speaking apparition on Tepeyac hill in 1531, and found her image preserved inside his *tilma* cloak, which she also filled with roses. This apparition is the patron saint of Mexico.  
ANSWER: **Virgin** of **Guadalupe** [or Our **Lady** of **Guadalupe**; or Nuestra **Señora** de **Guadalupe**; or La **Virgen** de **Guadalupe**; prompt on either underlined part of "Blessed Virgin Mary"]  
[10] Over the last decade, a cult of this skull-headed being has grown in Mexico. She is often seen as a benefactress of marginalized peoples such as gays, sex workers, and drug traffickers.  
ANSWER: Santa **Muerte** [or Santisima **Muerte**; or Nuestra Señora de la Santa **Muerte**; prompt on Saint Death]  
[10] A statue of this bodhisattva's "White" form was built in Ensenada by Mexico's small Tibetan Buddhist population. A bare-breasted, gilt bronze statue of her was taken from Sri Lanka and now sits in the British Museum.  
ANSWER: **Tara** [or Arya **Tara**; or **Jetsun Dölma**; or **rje btsun sgrol ma**]

9. "Moderation theory" arose out of this book's insight that power structures within large organizations inevitably lead to a strategic blunting of radicalism. For 10 points each:  
[10] Name this sociology book about the Social Democratic movement in Germany, which concludes that “the socialists might conquer, but not socialism, which would perish in the moment of its adherents’ triumph.”  
ANSWER: ***Political Parties*** [or *Zur Soziologie des* ***Parteiwesens*** *in der modernen Demokratie*]  
[10] In his book *Political Parties*, Robert Michels devised the "iron law" of this regime type -- i.e. that any group will eventually tend toward this type of rule by a small elite, irrespective of how it started.  
ANSWER: **oligarchy** [accept word forms such as **oligarchic**al; accept iron law of **oligarchy**]  
[10] This Italian scholar, a contemporary of Michels, claimed that a "political formula" of popular ideas can gin up support for the ruling class in his theory of elites. He wrote that each political system must accept or reject the "aristocratic principle" and the "liberal principle."  
ANSWER: Gaetano **Mosca**

10. The relaxation time of a star cluster only depends on the number of stars in the cluster and this quantity. For 10 points each:  
[10] Name this quantity defined as the radius of interest divided by the mean velocity of a star in the cluster. This timescale used to describe dynamics of stellar clusters is typically on the order of 10 to the sixth years, making it smaller than the relaxation time and evolution time.  
ANSWER: **crossing** time  
[10] The crossing time tends to be much longer in open clusters compared to these clusters, whose strong gravitational pull allows them to survive for much longer as they orbit the galactic core.  
ANSWER: **globular** clusterss  
[10] Collisions between stars in globular clusters is one hypothesis to explain the formation of these stars, which remain on the main sequence past the turn-off point.  
ANSWER: **blue straggler**s

11. A six-panel fresco depicting the “stories” of this saint was destroyed in the 1944 Allied bombing of Italy. For 10 points each:  
[10] Name this saint who was shown in that work in the Ovetari Chapel being “led to his execution” in front of a large Roman arch in a panel depicted from a dramatic worm’s-eye view perspective.  
ANSWER: St. **James** the Great [or **James** the Greater or **James**, son of Zebedee; or ***Stories of St. James*** or ***Histories of St. James***]  
[10] This painter executed the *Stories of St. James* in the Ovetari Chapel. His interest in unusual perspective is also seen in his extremely foreshortened *Dead Christ*.  
ANSWER: Andrea **Mantegna** [prompt on Andrea]  
[10] Isabella d’Este commissioned this Mantegna painting and was allegorically represented as Venus standing on a natural arch in it. In this painting, also called *Mars and Venus*, Anteros shoots a blow dart at the genitals of an angry Vulcan, and Apollo plays the lyre for the dancing Muses.  
ANSWER: *The* ***Parnassus***

12. The siege of this city featured rare cooperation from Muslims and Christians, although the winning leader refused to allow the former to convert to Christianity. For 10 points each:  
[10] Name this city, which was attacked by Richard the Bald and Roger Borsa, who wanted to reclaim it from Lando IV. During the siege of it, the pope and Saint Anselm hung out to observe what was happening.  
ANSWER: **Capua**  
[10] Roger Borsa was the son of Robert Guiscard, who, along with his brother, Sicily’s ruler Roger Bosso, hailed from this Norman family.  
ANSWER: **Hauteville** [or **d’Altavilla**]  
[10] This pope took a peep at the siege of Capua. A couple years earlier, he served as the hypeman for the First Crusade to the Holy Land.  
ANSWER: **Urban II** [or **Odo of Chatillon**; or **Otho de Lagery**]

13. This composer spent much of the 1940’s as the first Director of Music at Dartington Hall and also served for 20 years as co-artistic director of the Aldeburgh Arts Festival. For 10 points each:  
[10] Name this woman who wrote the cantata *The Sun's Journey* and the *Trianon Suite* shortly after ending her long tenure as Benjamin Britten's assistant.  
ANSWER: **I**mogen **Holst** [prompt on Holst]  
[10] Benjamin Britten wrote a sonata, three suites, and a symphony for this string instrument, all of which were commissioned by his close friend Mstislav Rostropovich.  
ANSWER: violon**cello**  
[10] Imogen Holst attended this girls’ school in Brook Green, where her father Gustav served as music director.  
ANSWER: **St. Paul’s** Girl’s School

14. A clerk and a secretary from this department get into an argument about whether Large Dance Floor A is actually smaller than Small Dance Floor C. For 10 points each:  
[10] Name this government department. Hugo Pludek gains control of it and pits it against the Inauguration Service, at the end of the play in which it appears.  
ANSWER: **Liquidation Office** [or **Likvidačního**]  
[10] The Liquidation Office appears in *The Garden Party,* a play by this Czech playwright of *The Memorandum*, who later became the first president of the independent Czech Republic in 1993.  
ANSWER: Václav **Havel**  
[10] This Czech author and his wife published works by dissident Czech writers through their company 68 Publishers, which they formed in Canada. Danny Smiřický observes the transfer of control of Bohemia from the Nazis to the Soviets in his novel *The Cowards*.  
ANSWER: Josef **Škvorecký**

15. A university of this name names a 3D test model for computer graphics in which a rendered image is compared to a photograph of objects in an environment with green, red, and white walls, its namesake "box." For 10 points each:  
[10] Give this name. An artist of this surname also made namesake "boxes," assemblages of bric-a-brac in glass-fronted shadow cases.  
ANSWER: **Cornell** [or **Cornell** box; or **Cornell** University; or Joseph **Cornell**]  
[10] A series of Joseph Cornell’s boxes were titled the “slot machines” of this family of Italian art patrons, whose members included Lorenzo and Cosimo.  
ANSWER: de’ **Medici** family [or House of **Medici**; accept ***Medici Slot Machines***]  
[10] In 1992, the NYRB published this man’s Joseph Cornell-inspired prose collection, *Dime-Store Alchemy*. This Serbian-American author was named U.S. Poet Laureate in 2007.  
ANSWER: Charles **Simić** [or Dusan **Simić**]

16. Name some ways that you can screw up your protein purification, for 10 points each:

[10] After fusing a His tag onto your protein, you forget to use a chromatography column with this metal in affinity chromatography, and the protein elutes straight through. This metal is found in urease.  
ANSWER: **nickel** [or **Ni**]  
[10] Rather than adding ammonium sulfate to salt out the protein, you instead add this very strong denaturing agent, which is composed of the two chaotropic ions on the opposite end of the Hofmeister series. Either this ionic compound or its hydrochloride analog is often included in the lysis buffer during DNA minipreps.  
ANSWER: **guanidinium thiocyanate** [prompt on partial answer]  
[10] After the protein purification, you forget to add the sodium salt of this anion before storing the protein to prevent bacterial growth in the sample. This anion has formula N3- [n three minus].  
ANSWER: sodium **azide**

17. The *New York Times* refused to print a photo by this artist where her daughter Jessie hangs naked in a barn from the title *Hayhook*. For 10 points each:  
[10] Identify this American photographer who explored states such as Mississippi and Georgia in her series *Deep South* and who first gained fame for her black and white photographs of girls at the title age in *At Twelve*.  
ANSWER: Sally **Mann**  
[10] Starting in 2001, Mann sought to figure out whether these places "bear witness in some way" and went around photographing them using wet plate collodion technology. Five men lie in the foreground of a Timothy O'Sullivan photograph of one of these places.  
ANSWER: Civil War **battlefield**s [or Civil War **battle sites** or **Gettysburg**; prompt on fields]  
[10] This photographer displayed photographs of Antietam taken by Alexander Gardner at his New York gallery. He also captured a beardless Abraham Lincoln on the day Lincoln gave his Cooper Union speech.  
ANSWER: Mathew **Brady**

18. The central couple of this novel meet when the man treats the woman’s feet, which she blistered by carrying a 120-pound side of pork in a stretcher for six hours during a training exercise. For 10 points each:  
[10] Name this 1999 novel in which the protagonist, a Chinese army doctor named Lin Kong, returns to Goose Village annually for 18 years to try to obtain a divorce in order to marry a nurse named Manna.  
ANSWER: ***Waiting***  
[10] Ha Jin’s *Waiting* was published two years after his *Under the Red Flag*, a short story collection about his military experience that was inspired by this Russian-Jewish author’s *Red Cavalry* stories.  
ANSWER: Isaac **Babel** [or Isaac Emmanuilovich **Babel**]  
[10] Ha Jin is a member of this group of 20th-century Chinese poets who published many of their works in the magazine *Jintian*. Bei Dao was another member of this group of poets, which was condemned by the Chinese government for possessing their namesake quality.  
ANSWER: **Misty** Poets [or **Menglong** Shiren]

19. Answer the following about beings discussed in everyone's favorite medieval Persian encyclopedia, the *Bundahishn,* for 10 points each.  
[10] The *Bundahishn* recounts that these beings are imbued with spirits called *fravashi*s, which exist before and after their death. Important ones in Zoroastrianism include the first one Gayomard and King Vishtaspa.  
ANSWER: **human**s [or **Man** or ***Homo sapiens*** or whatever, it's what we are]  
[10] According to the *Bundahishn,* a daeva of this name serves Ahriman by "freez[ing] the minds" of the righteous. In another tradition, a god of this name cut up Diti's fetus to produce 49 servants and was cursed for seducing the human Ahalya.  
ANSWER: **Indra** [or **Indar** in medieval Persian, apparently]  
[10] The *Bundahishn* claims that this goddess of water and fertility is the source of the "world river." Pre-Christian Armenians also worshipped this goddess, whose head was depicted in bronze in an Aphrodite-ish way in a partial statue found at Satala.  
ANSWER: **Anahit**a [or Ardvi Sura **Anahita**; or **Nahid**; or **Anaïtis**]

20. The discovery of the Mahogany Ship is occasionally used to support this theory. For 10 points each:  
[10] What probably wacky theory was popularized by lawyer Kenneth McIntyre, uses as “evidence” things like the Dieppe Maps, and argues that some other European, not Willem Janszoon, deserves credit for a certain feat of discovery?  
ANSWER: the theory that **Portugal** discovered **Australia** first [prompt on answers like the **Dutch not** discovering **Australia** first]  
[10] The actual Portuguese Empire got off to a rough start when during the reign of this king, Portuguese forces got their asses kicked attacking Tangier in 1437. This ruler’s brother, Ferdinand, was taken as a hostage afterwards.  
ANSWER: **Edward** [or **Duarte**; or **Edward** the Philosopher; or **Edward** the Eloquent]  
[10] This Portuguese admiral conquered Goa in 1510 and Malacca in 1511. He names a square in Lisbon, but not, despite what various quizbowl packets claim, a city in the United States.  
ANSWER: Afonso de **Albuquerque**

21. Hermann Dessau’s analysis of this text suggested the numerous problems with its supposed date and authorship. For 10 points each:  
[10] What collection of biographies of Roman emperors was supposedly written by six different authors to document the period 117 to 284? Historians now believe it features many fake documents and incidents, such as inventing an usurper named Firmus who rode in an ostrich-driven carriage.  
ANSWER: The ***Augustan History*** [or ***Historia Augusta***]  
[10] The probably fictional Firmus was supposedly an usurper against emperor Aurelian, who was given this title after defeating the Gallic and Palmyrene Empires, ending the Crisis of the Third Century. Latin name or English translation is acceptable.  
ANSWER: ***Restitutor Orbis*** [or **Restorer of the World**]  
[10] The *Augustan History* has a similar format to this author’s apparently more historically accurate text *The Twelve Caesars*.  
ANSWER: Gaius **Suetonius** Tranquillus