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

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**Tossups**

1. **With Emile Grünberg, this man created a model in which self-alteration does not prevent public prediction. With a student, this economist developed a model predicting that the wealth-income ratio is half the retirement length, and that growth counterintuitively leads to increased savings rates. To determine optimal policy under the neoclassical synthesis, this economist chaired the development of the (\*)** MPS-FMP econometric model. Predating Milton Friedman, this man and Richard Brumberg claimed that individuals use consumption smoothing to plan for retirement in their life-cycle hypothesis. He is the non-American-born namesake of a statement implying that cost of equity increases with the debt-equity ratio, though under ideal conditions the dividend policy or capital structure of a firm will not impact its value. For 10 points, name this MIT economist who names a theorem with Merton Miller.
ANSWER: Franco **Modigliani**

2. **One of this author’s essays claims that the singer of the pop song “I Ain’t Gonna Wash for a Week” is a “divine administrator of vengeance” for flouting the idea that cleanliness is next to godliness. Another essay by this author contrasts a microbiologist’s and a witch doctor’s explanations for why children die, to demonstrate that not all fictions are equally useful. That essay by him responds to Picasso’s claim that all art is false by suggesting that *Guernica* only had power because it spoke a kind of truth. This author of “Novelist as Teacher” described receiving a letter from a boy from** (\*) Yonkers, whom seems ignorant that Yonkers possesses tribal customs. This author included “The Truth of Fiction” in his collection *Hopes and Impediments.* He criticized another author’s description of the Congo river as a “black and incomprehensible frenzy.”. For 10 points, identify this Nigerian author, who discussed the racism of *Heart of Darkness* in the essay “An Image of Africa.”
ANSWER: Chinua **Achebe** [or Albert Chinualumogu **Achebe**]

3. **A member of this family gained the nickname “Prince of Cadland” after he impregnated his lover, the then-wife of Edward Law, the Earl of Ellenborough. That member of this family mused that his country would “shock the world by the depth of its ingratitude,” referring to a relationship with Russia. That member of this family was the first non-English lover of Jane Digby, the future paramour of kings Otto and Ludwig, and would later force the dissolution of the Erfurt Union. Another of its members got his ass kicked at the Battle of (\*)** Dresden, but later successfully co-commanded, with Alexander I, the coalition forces that defeated Napoleon at the Battle of Leipzig. The most famous member of this family was a former protege of Metternich who became the final Minister-President of Austria in the wake of the Revolution of 1848. For 10 points, name this prominent Bohemian family with members like Karl Philipp and Felix.
ANSWER: House of **Schwarzenberg** [or Felix von **Schwarzenberg**; or Karl Philipp von **Schwarzenberg**]

4. *Two answers required*. **An essay by one of these philosophers claims that he rubbed his eyes at the other’s “counter-foot” maneuver, which is translated as a “fake-out.” One of these thinkers argued contra the other that a meaningful sentence is just the “standing possibility” of an intentional act. A paper by one suggests that the other misunderstood a prior thinker’s notion of “parasitic discourse” as a “metaphysical exclusion” rather than as an investigative strategy. That one accused the other of confusing permanence with** (\*) “iterability” in defining the characteristic feature of written language. In an exchange, one of them repeatedly misspelled the other’s name as a foreign acronym for a company of finite liability. One wrote the paper “Reiterating the Differences” in response to the other’s criticism of his teacher J.L. Austin in “Signature, Event, Context.” For 10 points, the book *Limited Inc.* was written by what French philosopher as a response to what American author of *Speech Acts*?
ANSWER: Jacques **Derrida** and John (Rogers) **Searle** [accept in either order]

5. **The main theme of this symphony’s scherzo is a fortissimo pounding on the note D in a rhythmic motif of two eighth notes followed by five quarter notes. The original version of this symphony contained a chord that includes all seven notes of the harmonic minor scale, which was changed to a diminished seventh chord in a version edited by Ferdinand Löwe [ler-vuh], who conducted the premiere. An oboe melody in this symphony’s third movement quotes its composer’s earlier *Mass No. 3 in F minor*. This symphony unusually ends in E major but begins in D** (\*) minor. Near this symphony’s conclusion, four horns quote the beginning of its composer’sseventh, in an Adagio finale that its composer nicknamed the “Farewell to Life.” The composer of this work suggested that his *Te Deum* be used in lieu of a finale for this symphony. For 10 points, name this symphony by Anton Bruckner, left uncompleted at his death.
ANSWER: Anton **Bruckner’s Symphony No. 9** in D minor, **WAB 109** [accept either underlined portion; accept just “Symphony No. **9**” after “Bruckner”]

6. **The final straw leading up to this event was when a ruler refused to turn over a guard named Kathir, who had fired an arrow killing a man begging that ruler to abdicate. While trying to prevent this event, Naila had her fingers sliced off with a sword. A possible reason for this event was a man's reduction of a widow's pension, which earned him the epithet "Na'athal" or "Jew." Despite pledges of loyalty, a commander whose fleet won the Battle of the** (\*) Masts never arrived to break up the 49-day siege leading up to this event. The most likely reason for its taking place was the target's trust in his corrupt prime minister Marwan. The perceived failure to punish this event's perpetrators led to the Battle of the Camel. The man who took power after it was himself slain five years later by a Kharijite during the First Fitna. For 10 points, name this 656 assassination of the third rightly guided caliph, who was succeeded by Ali.
ANSWER: the **murder** of **Uthman** iban Affan [or the **murder** of **Osman**; accept equivalents for "murder," accept anything about **besieging/attacking** **Uthman** or **besieging/attacking Osman** prior to “siege”]

7. **This compound is the heaviest component of the first known saddle azeotrope, which boils at 58°C. A mix of chloroform and this compound is used to extract lipids in the Folch method. It’s added to cells at -20°C for fixing and permeabilization before flow cytometry. The most common titrant in a Karl-Fischer assay has imidazole and sulfur dioxide in this solvent. Coomassie Blue is delivered in a 50% solution of this compound and aqueous acetic acid, and along with Tris and glycine, it constitutes the transfer buffer for a Western blot. Either this compound or** (\*) acetonitrile is mixed with water to dissolve samples for ESI. When used to excess in reverse phase HPLC, this polar protic solvent dissolves the silica gel. When forming biodiesel, this compound reacts with fatty acids to make methyl esters. Oxidizing it gives formaldehyde, then formic acid. For 10 points, name this toxic one-carbon alcohol.
ANSWER: **methanol** [or **methyl alcohol**; or **CH3OH**; or **MeOH**]

8. **The dissertation and first book of long-time Brookings fellow P.W. Singer were both about these organizations. CPA Order 17 concerned these groups. Estate manager Richard Nordan brought a wrongful death suit on behalf of four employees of this type of organization. One of these named Triple Canopy is now run by Constellis. The failed Operation Rausim Kwik attempted to remove one of these groups whose conduct led to the resignation of Julius Chan, the prime minister of** (\*) Papua New Guinea. A name alluding to the Great Dismal Swamp was used by one of these founded by Erik Prince. Kathryn Bolkovac exposed the use of sex slaves by one of these groups in late-90s Bosnia and Herzegovina. The 2007 Nissour Square shootings were perpetrated by members of, for 10 points, what groups exemplified by Sandline, DynCorp, and a company once named Blackwater which operated in mid-2000s Iraq?
ANSWER: **private military** corporations [or **private military** contractors; or **private military** firms; or **private security** companies/contractors; or **PMC**s; or **PMF**s; or **private defense** contractors; or **mercenary** companies/firms; or **battlefield contractor**s; or **private army**; or **private armies**; prompt on private contractors or defense contractors or defense companies or army or armed forces or armies; descriptive answers must indicate that a **private** or for-profit company deploys **armed** men, rather than just providing munitions or tech]

9. **A poem that compares the speaker's "black soul" to a prisoner asks it to become as red with blushing as it is with this word. The speaker asks God to make "a heavenly Lethean flood / and drown in it [this word]'s black memory" in a poem that ends "I think it mercy" if God will forget this word. That poem's speaker questions "why should intent or reason, born in me" make this word, "else equal," more heinous in him than "lecherous goats" and "poisonous minerals." A sonnet that begins "I am a little** (\*) world made cunningly" laments that this word "hath betrayed to endless night / My world's both parts, and oh, both parts must die." All of those sonnets are by John Donne, who also wrote one which argues that this word drags the speaker's "feeble flesh" towards hell. For 10 points, name these religious concepts that cause the speaker of the *Holy Sonnets* to despair that he will not be saved during the Last Judgment.
ANSWER: **sin**s

10. **Truncating the potential and recasting Schrodinger’s equation in first-order form comprise an approach to finding the wavefunction called “variable” *<this>*. Particle number in QED and QCD is conserved because the Lagrangian is invariant under a change in this quantity. The total scattering cross-section from a central potential can be expressed entirely in terms of the wavenumber and the change in this quantity using the** (\*) partial wave approximation. The difference in this quantity equals electron charge times the solenoid flux divided by h-bar for two branches of a wire passing around a solenoid. The magnetic vector potential gives rise to a change in this quantity even when the magnetic field itself is zero in the Aharonov-Bohm effect. For 10 points, name this quantity which along with a real amplitude can specify any plane wave.
ANSWER: **phase** [or **phase difference** or **phase shift** or **phase change**]

11. **Near the end of this novel, the protagonist hallucinates that he hears mice in a storeroom calling to him, and that he transforms into a mouse so he may live among them. A refrain in this novel is the archaically-written sentence “There is a mower death yclept” [ee-klept]. The protagonist of this novel has sex with a widow while selling shoelaces door to door, causing his boss to rob her after he brags of the incident. This book, which ends with the main character starting work as a factory gatekeeper, begins when he is released from prison for killing his mistress with an egg beater.** (\*) Reinhold pushes its protagonist from a moving car during a robbery, causing him to lose his right arm, and later strangles his lover, Mieze. It was turned into a 14-part television miniseries by Rainer Fassbinder. For 10 points, name this novel about the criminal Franz Biberkopf by Alfred Doblin, titled after a once-seedy public square in the German capital.
ANSWER: ***Berlin Alexanderplatz***

12. **During this festival, one sect celebrates ten virtues of the soul, such as straightforwardness and non-attachment, all prefaced by the word “Uttam.” The last day of this festival contains the annual version of a rite that can also be performed every daily, fortnightly, or every four months. The holiest time to perform an extended fast called *atthai* [uh-TAI] occurs during this celebration, which occurs during Chaturmas in the monsoon season. One sect recites the** (\*) *Tattvartha Sutra* during this festival, while another recites the *Kalpa Sutra* in sections as it goes on. On this festival’s final day, people often ask for forgiveness from others by saying “Micchami Dukkadam” after Samvatsari Pratikraman. Das Lakshana is a ten-day version of this festival celebrated by Digambaras. Mahavira's birth is sometimes recounted on the fifth day of, for 10 points, what eight-day monsoon-season festival during which Jains fast and do penance?
ANSWER: **Paryushan**a Parva [or **Das Lakshan**a Parva until mentioned; or **Pajushan**a Parva; or **Pajjosavan**a Parva]

13. **Description acceptable. An unpublished report on this operation was prepared by Roger Fleetwood-Hesketh and was plagiarized for a 1971 book by journalist Sefton Delmer. Part of it was carried out by two Norwegians code-named “Mutt and Jeff,” and during it, Juan Pujol Garcia, alias “Garbo” or “Arabel,” was sending out over 500 radio messages. Leadership in this operation was the subject of a power struggle between Noel Wild and David Strangeways of R Force. This operation was part of the broader Operation (\*)** Bodyguard and was carried out by such sub-operations as Fortitude and Quicksilver. To carry it out, the first U.S. Army Group was created under the command of General Patton. This operation’s success led to numerous reserves stationed at Pas de Calais. For 10 points, the use of dummy airstrips and landing craft by the Allies were meant to accomplish what deceptive operation in 1944 prior to a June 6th invasion?
ANSWER: **tricking** the Germans as to the location of **D-Day** [or **tricking** the Germans as to the location of Operation **Overlord**; or **tricking** the Germans about the **Normandy** invasion; accept Operations **Bodyguard**, **Quicksilver**, or **Fortitude** before mentioned, prompt on answers that do not indicate trickery or deception, prompt on answers that indicate tricking the Germans about specific locations; accept obvious equivalents for “tricking”]

14. **An unexpected 36 Hz extremely-low-frequency wave in this region is believed to be the second harmonic of a Schumann resonance and has been attributed to plasma instability. Inductively coupled plasmas have been used by Imanaka et al to reproduce the tholins found in this region. The destabilization of clathrates is a popular hypothesis to explain the persistence of a certain species here, which otherwise would have been exhausted by photoconversion.** **The existence of this entity was first proven by the detection of an absorption band at 6190 Ångstroms by** (\*) Gerard Kuiper. Polymerization of small organics is responsible for the orange haze of this region, which is just under 2% methane. The opacity of this region prompted to the development of the Huygens lander to study the surface below. For 10 points, name this region, which is the only known dense collection of gas to orbit a natural satellite.
ANSWER: **Titan**’s **atmosphere** [prompt on either part alone]

15. **This architect included a Universal Floor in a project inspired by an assignment from his Cooper Union teacher John Hejduk called the Nine-Square Grid House, and furthered the idea of a curtain wall in his Case Study House 07. An art museum designed by this man has a glass elevator inspired by a gondola from which patrons then “ski” down to the galleries. A bamboo hat inspired the hexagonal shell made from timber he used for the roof of a (\*)** Metz art museum. Some of his structures are anchored by sand-filled Kirin beer crates. He designed the Aspen Museum of Art. This man's own summer house on Lake Yamanaka was one of the first to use paper for a building material; he subsequently used paper for his series of refugee houses following the Kobe earthquake. For 10 points, name this Japanese winner of the 2014 Pritzker Prize and designer of the Cardboard Cathedral.
ANSWER: Shigeru **Ban** [or **Ban** Shigeru]

16. **A book describing this group’s introduction claims that the American press, “for all its vaunted independence, [was] a great colonial animal.” The *New York Times*’ James Reston praised this group’s “courage and idealism,” referring to a press conference where reporters “lustily” applauded members for speaking about God, family, and country. An unofficial member of this group was public relations man “Shorty” Powers, who coined the term “A-OK.” Its members were derisively called** “spam in a can.” Because of an erratic heart rhythm, Deke Slayton was removed from active duty in this group and spent years as a civilian administrator. Its members were irritated at being compared to monkeys by Chuck Yeager, a feud documented in Tom Wolfe’s book *The Right Stuff*.For 10 points, Gus Grissom, Alan Shepard, and John Glenn were part of what group, otherwise known as “Astronaut Group One”?
ANSWER: The **Mercury** Seven [or the **Mercury** astronauts; accept **Astronaut Group 1** until mentioned; prompt on the Original Seven; prompt on astronauts; prompt on NASA astronauts; prompt on answers like first astronauts or original astronauts]

17. **One character in this play describes how his “best customer” whispered in his ear “You’re only yourself when no one’s watching.” Another character in this play gets a size 6 1/2 ring for his girlfriend’s size 7 finger, because he wants it to be impossible for her to remove it once she accepts it. A repeated point of argument in this play is over two five-hundred dollar inheritances left when two parents abandoned their children. Act Two of this play begins with a nice tablecloth covering a table made from a board perched on two milk crates, as one character gets stood up by his unseen girlfriend** (\*) Grace. Like its author’s earlier character of Foundling Father from *The America Play*, one protagonist in this play has the job of impersonating a president in whiteface at a carnival so that patrons can fake assassinating them. Its other protagonist wishes to learn how to deal three-card monte from his brother. For 10 points, name this play about Lincoln and Booth by Suzan-Lori Parks.
ANSWER: ***Topdog/Underdog***

18. **An enzyme native to these cells contains an iron (II)-iron (III) cluster, is bright pink in solution, and is labelled 5b because it produces an unusual fifth band in SDS-PAGE. The *gray-lethal* mutation in mice causes overproduction of these cells. The ClC-7 chloride channel is coupled to a V-type ATPase in these cells’ membranes. Helper T-cells that make interleukin-17 are named for their resemblance to these cells, which, like T cells, have transcription globally regulated by NFAT-c1. DC-STAMP fuses these cells’ precursors to form their active** (\*) multinucleated counterparts. OPG, a decoy for the RANK ligand, inhibits production of these cells, which also requires co-stimulation by MCSF-1. Bisphosphonates activate apoptosis of these cells. They secrete cathepsin K and tartrate-resistant acid phosphatases through their ruffled borders. For 10 points, name these cells found in crevasses called Howship’s lacunae, which increase blood calcium levels by breaking down bone.
ANSWER: **osteoclast**s [do NOT accept or prompt on “osteoblasts”]

19. **In a painting set in one of these places, a man wearing a red shirt crouches next to a lamb in a pose borrowed from Raphael's *Sacrifice of Noah*. Another painting set in one of these places contains a sign advertising 154 rods of land for sale. The man in a feathered hat holding a halberd and wearing a codpiece on the left hand side of a painting set in one of these places may be a parody of Mannerism. Mary assists a beggar in the background of a painting set in one of these locations where two (\*)** pretzels hang near a kettle in the top left. The Holy Family gives alms in the background of a Pieter Aertsen painting set in one of these places. An assistant hoists up a heavy object onto a hook on the right of a painting set in one of these places originally attributed to the artist's brother, Agostino. For 10 points, name these businesses, where in an Annibale Carracci painting several animal carcasses hang.
ANSWER: **butcher shop**s [or **meat stall**s or **meat market**s or **butcher stall**s; prompt on stalls or shops or markets or stores]

20. **A ballad about this place begins with the words "Ha glevas-te, ha glevas-te"** [hah GLEH-vahs TEH], **roughly meaning "Have you heard? Have you heard?" Some tellings claim that its women have transparent skin and can float. In a Christianized version, advisors in this place included the founder of Landevennec monastery, Saint Gwennole. After one night of sex apiece, each man in a series of male lovers in this place got a black satin mask which constricted around his neck and choked him to death. Along with "The Fairy Melusine," a poem about this place is a major work of the fictional** (\*) Christabel Lamotte in A.S. Byatt's novel *Possession.* The only key opening a door in its bronze walls was held by its king Gradlon, until his daughter Dahut gave it to a red-clad figure who was probably the Devil. For 10 points, name this city built below sea level by the Bay of Douarnenez, which was drowned by waves in a notable Breton legend.
ANSWER: City of **Ys** ["EEZ"] [or Kêr-**Is**]

21. **The American entomologist Vernon Lyman Kellogg verified atrocities in this country. It’s not Armenia, but the Bryce Report described supposed atrocities committed in this country. Foreign Affairs Undersecretary Zimmermann defended actions committed *in* this country by asking to imagine if crimes went “unpunished because committed by women.” British Nurse Edith (\*)** Cavell was executed in this country after a treaty supposedly protecting its neutrality was dismissed as “a scrap of paper” by the invading nation’s chancellor. In 1914, young engineer Herbert Hoover became the head of a Commission for Relief in this food-starved country. British propaganda hyped this country’s “rape” during its World War I occupation by Germany. For 10 points, name this European country whose colonial Force Publique fought the Germans in Africa.
ANSWER: Kingdom of **Belgium**

**Bonuses**

1. You know what this tournament needs? Some motherfuckin’ Gilbert & Sullivan! For 10 points each:
[10] Gilbert & Sullivan operettas are known for this type of song that involves a singer rattling off rapid-fire tongue-twisting lyrics. They include “My Name is John Wellington Wells” from *The Sorcerer* and the “My Eyes Are Fully Open” trio from *Ruddigore*.
ANSWER: **patter** song
[10] Perhaps the most famous patter song in the G&S canon is sung by this character from *The Pirates of Penzance,* who declares himself to have “information vegetable, animal, and mineral.”
ANSWER: **Major General** **Stanley** [accept either underlined portion; accept “the modern **Major General**”]
[10] In *Iolanthe*, the Lord Chancellor sings this patter song, which comes after the recitative “Love unrequited.” This song describes riding on a bicycle with an eleven-year-old lawyer, and planting a pastry-cook like a tree so that he grows apple puffs.
ANSWER: The **Nightmare** Song [or “**When you’re lying awake**”]

2. This novel was written three years after its author’s narrative of an expedition through the Cambodian jungle in *The Royal Way.* For 10 points each:
[10] Name this novel by André Malraux, which begins with Ch’en stabbing a man to death through a mosquito net and ends with a lot of suicides as a communist plot in 1920s China goes awry.
ANSWER: ***Man’s Fate*** [or *La* ***Condition Humaine***; or any reasonable translation such as *The* ***Human Condition***; or ***Storm in Shanghai***]
[10] In *Man’s Fate,* Baron de Clappique famously defines this activity, which he engages in at the Black Cat Club, as “suicide without death.”
ANSWER: **gambling** [or playing **roulette**]
[10] *Man’s Fate* won Malraux this prestigious French literary prize for “the best and most imaginative prose work of the year.” It is named for author brothers Edmond and Jules Alfred Huot.
ANSWER: Prix **Goncourt**

3. This result states that differentiating a profit function with respect to output price yields the output quantity, while differentiating it with respect to the price of a particular factor yields the negative of the corresponding factor quantity. For 10 points each:
[10] Name this lemma which is analogous to Shephard's lemma. It is named for an economist who also names a generalization of the Student's T-distribution.
ANSWER: **Hotelling**'s lemma
[10] Hotelling's lemma is an application of one of these statements, which describe sufficient conditions for a value function to be differentiable with respect to a given parameter.
ANSWER: **envelope** theorems
[10] The envelope theorem is used in constrained problems of this type. In this type of problem, one typically finds the best solution out of all feasible solutions.
ANSWER: **optimization** problems [accept word forms]

4. This city’s “Golden Age” occurred under Andrei the God-Loving. For 10 points each:
[10] Name this city, which was destroyed by Batu Khan in February 1238, ending its brief stint of medieval power. Its Dormition Cathedral was an inspiration for Moscow’s Kremlin, which later took over some of the earlier cathedral’s duties.
ANSWER: **Vladimir** [or **Vladimir-Suzdal**]
[10] This man, both Prince of Moscow and Vladimir, had a nickname referring to his great wealth, obtained out of loyalty due to the Golden Horde.
ANSWER: **Ivan I** [or **Ivan Kalita**; or **Ivan Moneybag**s]
[10] Ivan I clashed with princes from this city, which was ruled by men like Mikhail and Dmitry “the Terrible Eyes.” Dmitry killed Moscow’s Prince Yuri Danilovich, but was himself outmaneuvered and executed.
ANSWER: **Tver**

5. Along with his partner, Niki de Saint Phalle, this man spent over 20 years working on giant head whose brain was made out of cars and had a toboggan as a tongue. For 10 points each:
[10] Identify this New Realism artist whose *Le Cyclop* was erected near Fontainebleau. He exploded several of his sculptures in the Nevada desert for his project, *Study for the End of the World, No 2.*
ANSWER: Jean **Tinguely**
[10] Jean Tinguely may be best known for a self-destructing work that is an homage to this city. Tinguely's work was made for a sculpture garden near one of this city's modern art museums, another of which is the Whitney.
ANSWER: **New York** City
[10] Tinguely and Saint Phalle collaborated on these set of sculptures located outside of the Pompidou Centre. Individual pieces in this collection include a giant pair of lips and a multi-colored elephant's head.
ANSWER: ***Stravinsky Fountain*** [or *La* ***Fontaine Stravinsky***]

6. In this play’s final act, its most authoritative character, Sarah Kahn, delivers a monologue in which she states “If you don’t care, you die.” For 10 points each:
[10] Name this play in which Sarah Kahn clashes with her son over the ability of communism to provide solace for the working class in the wake of the Hungarian Revolution. It forms a trilogy with its author’s other plays *Roots* and *I’m Talking About Jerusalem*.
ANSWER: ***Chicken Soup with Barley***
[10] *Chicken Soup with Barley* is by Arnold Wesker, whose use of Kitchen Sink Realism sometimes gets him grouped with this set of British postwar authors, whose members include John Osborne.
ANSWER: **Angry Young Men**
[10] John Osborne wrote this play about the bitter music-hall singer Archie Rice, whose soldier son Mick is captured and killed while abroad.
ANSWER: *The* ***Entertainer***

7. You are a student of rhetoric in ancient Rome. For 10 points each, show that you have been listening to your *magister* and answer the following:
[10] You know to use this case when uttering exclamations such as Cicero's "O tempora! O mores!" Neuter Latin nouns look the same in the nominative as they do in this case, which marks direct objects.
ANSWER: **accusative** case
[10] You should go read this Roman author's *Institutio Oratia*, a 12-part textbook on rhetoric and literary style. Two centuries after Cicero, he drew on Aristotle to formalize five "canons" of rhetoric: invention, style, arrangement, memory, and delivery.
ANSWER: **Quintilian** [or Marcus Fabius **Quintilian**us; or **Quinctilian**; prompt on Fabius]
[10] You may also know about this rhetorical device with a Greek name, in which a future objection is anticipated and rebutted in advance. It can also refer to using an adjective which doesn't apply until the action of a forthcoming verb has been mentioned.
ANSWER: **prolepsis** [or **procatalepsis**]

8. These structures form in Lytico-Bodig disease, a Guam-native motor disorder similar to ALS. For 10 points each:
[10] Name these protein aggregates that more commonly present in Alzheimer’s disease, along with beta-amyloid plaques. They are caused by hyper-phosphorylation and aggregation of the tau protein.
ANSWER: **neurofibrillary tangle**s [or **NFT**s; prompt on tangles]
[10] Though not much is known about tau protein, we do know that it binds to these thick polymer components of the cytoskeleton, which compose the mitotic spindle and are targeted by chemotherapeutics like Taxol.
ANSWER: **microtubule**s
[10] The S form of this dye can be used to visualize neurofibrillary tangles in the brain. The T form of this benzothiazole dye has high affinity for beta-sheet rich proteins, such as those found in amyloid plaques.
ANSWER: **thioflavin** [or **thioflavin S**; or **thioflavin T**]

9. In his blistering dissent in this case, Robert Grier compared the successful argument made to an insanity plea. For 10 points each:
[10] What 1869 Supreme Court case ruled that a certain state’s Treasury bond sales during the Civil War were invalid because states had no right to secede from the Union? The majority opinion argued that union was “final” and “perpetual.”
ANSWER: *Texas v.* ***White*** [or ***White*** *v. Texas*]
[10] The year after *Texas v.. White*, the case of *Hepburn v. Griswold* ruled that an earlier law authorizing this action was unconstitutional. Ironically, the author of the decision had pushed for the 1862 law that authorized this action.
ANSWER: the issuing of **paper money** [or the issuing of **greenbacks**; or the issuing of United States **Notes**; accept anything about the state issuing **paper money**; prompt on issuing legal tender]
[10] Both the *Texas* and *Hepburn* decisions were written by this Chief Justice, the successor to Roger Taney and a former Secretary of the Treasury under Lincoln.
ANSWER: Salmon Portland **Chase**

10. For 10 points each, answer the following about reasonably common Jewish prayers.
[10] The "Hatzi" and "Shalem" variants of this Aramaic prayer end segments of a Jewish service. It begins "Yitgadal v'yitkadash sh'meh rabah," and is most notable outside the faith as a prayer for the dead.
ANSWER: **Kaddish**
[10] A short prayer known by this Hebrew word, roughly meaning "who has given us life," marks the start of a new joyous occasion, such as the first night of Hanukkah.
ANSWER: **Shehecheyanu** [the full blessing is: *Baruch atah Adonai, eloheinu melech ha'olam,* ***shehecheyanu****, v'kiy'manu, v'higiyanu lazman hazeh*]
[10] As a part of traditional prayers said at this time, Orthodox Jewish men praise God "for not having made me a woman".
ANSWER: **morning** prayers [or **morning** service; or **sunrise**; or **dawn**; or **daybreak**; or Birkot ha-**Shachar**; or **Shachar**it service; prompt on daily prayers]

11. One aspect of this problem is the fact that the Higgs mass is far smaller than the predicted Planck mass. For 10 points each:
[10] Name this problem in physics which asks why gravity is so weak compared to the weak force.
ANSWER: **hierarchy** problem
[10] Together with Raman Sundrum, this American physicist proposed a solution to the hierarchy problem in two landmark papers. In the first of those models, gravity resides on a different 3-brane from ours, and the two are separated within five-dimensional anti De Sitter space.
ANSWER: Lisa **Randall**
[10] One possible, but unappealing, resolution to the hierarchy problem is that the tree-level and loop-level contributions to the Higgs mass just happen to cancel each other out, an apparent coincidence known by this name.
ANSWER: **fine-tuning**

12. In a book titled for this concept, Giorgio Agamben traced its roots back to Roman law. For 10 points each:
[10] Give this name for a situation in which existing, normative legal codes are suspended due to an emergency. Its creator defined the sovereign as he who decides the pivotal action that characterizes this situation.
ANSWER: **state of exception** [or ***Ausnahmezustand***]
[10] This German political philosopher introduced the concept of the “state of exception” in *Political Theology*. This author of “The Concept of the Political” controversially became president of the Union of National-Socialist Jurists during the Nazi government.
ANSWER: Carl **Schmitt**
[10] In *Political Theology* and “The Concept of the Political,” Schmitt also attacks this doctrine, advocated by the likes of Michael Walzer and Samuel Pufendorf, that circumstances can make military conflict ethically necessary.
ANSWER: **just war**

13. His piece *Inlets* is scored for three musicians playing 12 amplified water-filled conches, plus one recording of a pine cone burning. For 10 points each:
[10] Name this pioneer of aleatory music, who used the *I Ching* to compose works such as *Music of Changes* and who composed five *Imaginary Landscapes*.
ANSWER: John (Milton) **Cage** Jr.
[10] This Cage composition for solo violin was largely based on his previous work for piano, *Etudes Australes*. The original dedicatee of these pieces, Paul Zukofsky, declared them impossible to play, but all 32 were premiered in 1991 by Irvine Arditti.
ANSWER: ***Freeman Etudes***
[10] Cage was part of the New York School of composers, which also included Earle Brown, Christian Wolff, and this American composer whose String Quartet No. 2 lasts for more than six hours. His most famous composition was titled for and designed to be performed in the Rothko Chapel.
ANSWER: Morton **Feldman**

14. Samuel Galton managed to save his estate in this city by bribing rioters with ale. For 10 points each:
[10] What city was rocked by July 1791 riots that began with an attack on the Royal Hotel, which was hosting a banquet in support of the French Revolution? Rioters mostly targeted homes of religious Dissenters.
ANSWER: **Birmingham**, England
[10] A major target of the Birmingham Riots was this Unitarian leader and scientist, who also invented soda water and is credited with the discovery of oxygen.
ANSWER: Joseph **Priestley**
[10] This man founded the Birmingham Political Union to support the passing of the Great Reform Act of 1832. Along with Joshua Scholefield, he was one of the first MP’s to represent Birmingham in Parliament.
ANSWER: Thomas **Attwood**

15. Answer some questions about psychological tests, for 10 points each:
[10] This social psychology test involves sorting several words into categories to measure hidden connections a person might subconsciously make. An online one run by Harvard measures bias in favor of black or white faces.
ANSWER: **implicit association** test [or **IAT**]
[10] This man names a cueing task, or paradigm, used for testing attention levels; the test involves having participants sit at a computer staring at some fixed point while cues and then stimuli pop up.
ANSWER: Michael **Posner** [or **Posner** cueing task/paradigm]
[10] Along with anxiety, Aaron Beck names a self-administered "Inventory" for this mental health condition, to rate its intensity weekly as part of therapy. This more severe analogue of dysthymia can be treated using selective serotonin reuptake inhibitors such as Lexapro.
ANSWER: **depression** [or major **depressive** disorder; accept Beck **Depression** Inventory]

16. In Greek mythology, there were two Argonauts named Ancaeus, one from Arcadia and one from Samos, with very similar life trajectories. Answer the following about them, for 10 points each:
[10] Both Ancaeus-es were killed by this sort of animal, one as it trampled all over his vineyard, and the other as he hunted one down in Calydon with Meleager.
ANSWER: **boar** [or **pig**; accept Calydonian **boar** though the vineyard-boar was not that]
[10] After Tiphys's death, the Ancaeus from Samos took up this role for the Argonauts. Palinurus did this task for Aeneas.
ANSWER: **helm**sman [or taking the **helm**; or **steer**ing the ship]
[10] The Ancaeus from Arcadia wielded one of these objects in battle. Symbolic ones were used all over the place by the Minoans, and theologian Mary Daly spurred on its use as a symbol of lesbian feminism in the 1970s.
ANSWER: **double**-headed **ax**e [or **double**-bladed **ax**e; or **double-bit**ted **ax**e; or **labrys**; or **pelekys**; prompt on axe]

17. The backdrop of this novel is the battle between King Zhou of Shang and King Wu of Zhou. For 10 points each:
[10] Name this novel in which Bi Gan presents his heart as an offering to the emperor, but doesn’t die until a vendor of cabbages remarks that the vegetable can’t exist without its stem. This book’s title refers to a power of Jiang Ziya to deify those fallen in the conflict.
ANSWER: ***Investiture of the Gods*** [or ***Fengshen Yanyi***; or ***Fengshen Bang***; or ***Creation of the Gods***; or *The* ***Apotheosis of Heroes***; or *The* ***Canonization of the Gods***]
[10] King Zhou of Shang seals his fate when he glimpses this beautiful character and writes her a love poem. When she sees how obscene the poem is, she sends three spirits to curse him, including the vixen spirit Daji.
ANSWER: **Nuwa**
[10] *Investiture of the Gods* was written during the rule of this Chinese Dynasty. It was when Wu Cheng’en wrote *Journey to the West*.
ANSWER: **Ming** Dynasty

18. These materials usually consist of copper or zinc coordinated to ligands called “struts”. For 10 points each:
[10] Name these porous materials used for heterogeneous catalysis or adsorption, which are essentially polymers of coordination complexes, but with voids.
ANSWER: **metal-organic framework**s [or **MOF**s]
[10] MOFs were developed as an alternative to these porous silicate minerals, which have narrow channels that can be decorated with noble metals. They are used in catalytic cracking.
ANSWER: **zeolite**s
[10] The kinetics of bimolecular zeolite reactions are governed by this mechanism, in which each individual species first adsorbs to an available open site, then diffuses along the surface until it finds another molecule to react with. The first namesake of this mechanism proposed a simple adsorption isotherm.
ANSWER: **Langmuir-Hinshelwood** mechanism [prompt on Langmuir isotherm]

19. In the poem “For All,” the speaker pledges allegiance to the soil of this location, proclaiming that it has “one ecosystem / in diversity / under the sun.” For 10 points each:
[10] Name this location that titles a Pulitzer Prize-winning collection including the poems “By Frazier Creek Falls” and “Dusty Braces.”
ANSWER: ***Turtle Island***
[10] This Beat poet who wrote *Turtle Island* claimed that the Buddha had announced that he would save America in the form of Smokey the Bear in his “Smokey the Bear Sutra.” He was the basis of the character Japhy Ryder in the novel *The Dharma Bums*.
ANSWER: Gary **Snyder**
[10] This author portrayed himself as Ray Smith in his novel *The Dharma Bums*, in which the narrator climbs Matterhorn Peak. He fictionalized himself as Sal Paradise in another novel.
ANSWER: Jack **Kerouac** [or Jean-Louis Lebris de **Kérouac**]

20. Much of this agreement was effectively reversed by the Treaty of Belgrade. For 10 points each:
[10] What 1718 treaty transferred control of the Morea region from the Kingdom of Venice to the Ottomans, but also resulted in the Ottomans surrendering what became the Kingdom of Serbia?
ANSWER: Treaty of **Passarowitz** [or Treaty of **Pozarevac**]
[10] After the Treaty of Passarowitz’s signing, the Ottomans entered a 12-year peaceful period named for these objects, the subject of a craze among Ottoman elites. An earlier craze about these things occurred during the Dutch Golden Age.
ANSWER: **tulip**s [prompt on flowers]
[10] The “Tulip period” in the Ottoman Empire ended in 1730, when this janissary led a rebellion that replaced the reform-minded Sultan Ahmed III with Mahmud I. Mahmud later ordered the execution of this man. Sad!
ANSWER: Patrona **Halil** [or Horpesteli Arnavut **Halil**]

21. Synthesis of this compound proceeds by conversion of chorismate to di-hydroxy-benzoic acid, followed by conjugation to serine, and then a tri-cyclization. For 10 points each:
[10] Name this compound secreted by *Salmonella*, *E. coli*, and other iron-limited bacteria, a siderophore with an incredibly high binding affinity for iron of less than 10 to the minus fiftieth .
ANSWER: **enterobactin**
[10] That makes enterobactin’s affinity for iron roughly a trillion trillion trillion times stronger than this classical “ultra-strong” binding interaction, which occurs between vitamin B7 and a protein found in egg white. Secondary antibodies using this binding interaction are common in Western blots.
ANSWER: **avidin-biotin** interaction [or **streptavidin-biotin** interaction; either order is fine, but both components must be included]
[10] Receptor-ligand interactions show the same concentration dependence as enzymatic reactions--namely, this hyperbolic model, which predicts a maximal velocity at high substrate concentrations.
ANSWER: **Michaelis-Menten** kinetics