ACADEMIC COMPETITION FEDERATION

2014 ACF Nationals
Packet by Alabama, Columbia A, and Columbia B

Tossups

1. In the run-up to this battle, the archbishop of Canterbury John Stratford urged the victor to not attack because of the size of the enemy forces and the confined space, but his advice was ignored. John Crabbe was sent in this battle's aftermath to prevent escape of a losing commander. The victor compensated the town of Great Yarmouth for securing victory in this battle, which led immediately to the siege of Tournai. A force of mercenaries at this contest commanded by Egidio Bocanegra escaped with all six of its galleys intact, after trying to support the losing force, which had chained its ships together in three ranks under the command of Nicolas Behuchet. Those sailors under King Philip VI were defeated at this battle near the Scheldt estuary off the coast of Flanders by the force of Edward III. For 10 points, name this monumental naval battle during the Hundred Years War.
ANSWER: Battle of Sluys [or Battle of l'Ecluse]

2. Peter de Vries parodied this poem's title for his novel in which Bill Bumpers becomes a marriage counselor in Middle City, Iowa. This poem ends with a description of a "party of young fellows" performing a "robust, friendly" action appropriate for night after giving "the day what belongs to the day." This poem juxtaposes the locales of a boat and a steamboat deck and the postures of the shoemaker "as he sits on his bench" and the hatter "as he stands." The speaker of this poem claims each person performs the title action only to "what belongs to him or her and to none else." The third line of this poem describes the carpenter "as he measures his plank of beam," and the second describes a group performing the title activity "as it should be blithe and strong." The speaker of this poem lists the mason, the boatman, and the mechanics contributing to "the varied carols" that make up the title national activity. For 10 points, name this patriotic poem in which Walt Whitman listens to his country's workforce.
ANSWER: "I Hear America Singing"

3. The LanFEG proteins, which are found in this genus, consist of an ATP-binding domain and two transmembrane domains. Important genes in organisms of this genus include *ska* and *emm*. Based on the carbohydrate compositions of these organisms' cell walls, they are classified as A-H, L, N, and R&S according to the Lancefield grouping. The CAMP test is used to identify one organism in this genus, which can be transferred to neonates passing through the birth canal and inflames cow udders, rendering them unable to produce milk, explaining its species name *agalactiae*. This genus undergoes cell division along a single axis, and grows in pairs or chains, hence its name. Rheumatic fever is caused by the *pyogenes* species of these bacteria, whose *pneumoniae* species is, appropriately enough, the leading cause of bacterial pneumonia. White exudate covers the tonsils in the pharyngitis caused by the group A bacteria of this kind. For 10 points, name these spherical-shaped bacteria that can cause a namesake sore throat.
ANSWER: Streptococcus [prompt on "strep"]

4. In the midst of this event, the imprisoned Gabriele Cagliari suffocated himself in prison by tying a plastic bag around his head, after writing a note stating "I was part of a system that was dying." That was the ninth suicide during this event, and occurred after questions arose about a joint venture between the chemical company Montedison and the energy company ENI in the Enimont Affair. In the wake of this event, the Lega Nord proposed setting up a separatist state known as Padania, after this operation purged all political parties and toppled the First Republic. It began with an arrest of Socialist Party member Mario Chesia instigated by the judge Antonio de Pietro. For 10 points, name this judicial investigation into Italian political corruption that started in Milan in the early 1990s, and was named for its goal of washing away the stains of bribery.
ANSWER: Mani pulite [accept Operation Clean Hands; accept investigation of the Tangentopoli corruption scan-

dals or "B̲ʀɪʙᴇꜱᴠɪʟʟᴇ" or "K̲ɪᴄᴋʙᴀᴄᴋꜱ C̲ɪᴛʏ" or any literal translation of the word "T̲ᴀɴɢᴇɴᴛᴏᴘᴏʟɪ" which means "ᴄɪᴛʏ ᴏꜰ ʙʀɪʙᴇꜱ"]

5. At the gate of Samaria in front of Jehoshaphat, Zedekiah made some of these objects from iron and proclaimed that he would attack the Arameans. In Ezekiel, the Lord says that on the day when Nebuchadnezzar conquered Egypt, this object of Israel will spring forth, whereas Psalm 132 says that the one of David would blossom. Psalm 75 mentions that these objects of the wicked will be cut off, but those of the righteous will be lifted high. On the fourth beast from the sea, one of these objects containing human eyes and a boastful mouth emerges and roots out 3 of the 10 previous ones. In Judaism, this kind of object is used by a person called the Baal Tokea, following three sets of prayers during Mussaf. Fear that Solomon would kill him compels Adonijah to take hold of these objects on the four corners of an altar. Samuel anointed David with oil from one of these objects, which is used to announce the jubilee and to bring down Jericho. For 10 points, name this kind of object, such as the shofar, which is made from a ram.
ANSWER: ʜᴏʀɴs [accept ꜱʜᴏꜰᴀʀ before mentioned]

6. The piano plays passages marked with the adverbs "audaciously," "frenziedly," and "impolitely," in a movement in this form which precedes a "Cantico" in which the chorus sings from the finale of Adam Oehlenschläger's verse drama *Aladdin*; that movement is the fourth movement of Busoni's gigantic *Piano Concerto*. A melancholy string theme is followed by a segment in this form near the end of Tchaikovsky's opus 45, which begins with a trumpet fanfare inspired by a bugle call from a barracks. A segment in this form follows a serene D major trio in forming the presto of a D minor string quartet. Chopin's Opus 43, which is in this form, was inspired by a patter song from *Soirées musicales* by Rossini titled "La Danza." Schubert evoked death in *Death in the Maiden* by using this typically 6/8 dance in his finale, and Mendelssohn's fourth symphony blends it with the saltarello. For 10 points, name this form, modeled after a frenetic dance from Southern Italy that foolish people performed to try to cure bites from a certain type of spider.
ANSWER: ᴛᴀʀᴀɴᴛᴇʟʟᴀ [accept B̲ᴜꜱᴏɴɪ'ꜱ ᴘɪᴀɴᴏ ᴄᴏɴᴄᴇʀᴛᴏ before "this form" is read and award a gold star to whoever says it]

7. Calderazzo used labeled substrate to elucidate the mechanism of this reaction pattern. In some alkene reactions of this kind, the reaction stops at the transition-state structure and the J coupling constant and infrared stretch frequency respectively hit the abnormal values of 70-90 Hz and mid-2500 inverse cm. In the mechanism for the most common reaction of this type, the L-type reactant remains stationary more often than the X-type reactant. After the binding of a monomer in the Cossee-Arlman mechanism, a reaction of this kind happens, enabling the polymer chain to grow. The rate-determining step of alkene hydrogenation with Wilkinson's catalyst is a reaction of this kind. A reaction of this kind forms a square pyramidal intermediate in the Cativa process. The opposite of this kind of reaction, a beta-hydride elimination, is exemplified by aldehydes being decarbonylated to their corresponding alkanes. Carbon monoxide uses this mechanism to react with metal-carbon bonds. For 10 points, name these common reactions in transition metal chemistry, in which an interloping ligand places itself inside a bond, for which a "migratory" mechanism is common.
ANSWER: migratory ɪɴꜱᴇʀᴛɪᴏɴ [accept ᴍɪɢʀᴀᴛɪᴏɴ as well, until migratory is read]

8. This poem's author described it as "stories of times gone by" in a dedication to "beauties," who he hoped would sometimes sneak a glance at his "sinful songs." Switching to the first person, this poem's writer describes seeing a hawk make off with a hen, before describing how one of the title characters is approached by three women who dress her and place a necklace of pearls on her. This poem's famous preface describes an oak tree near a "curved shore," that is encircled by a gold chain, on which a "wise cat" walks left and right, telling stories. In this poem, Rogdai almost kills Farlaf before recognizing him after Farlaf falls into a ditch, from which he's rescued by a sorceress. Farlaf later stabs this poem's hero after he discovers him sleeping at the feet of the second title character, but that hero is resurrected with the help of the magician Finn, and gallops to Kiev to awaken his lover with the help of a magic ring. Its plot is set in motion when the evil magician Chernomor abducts Vladimir's daughter from a feast. For 10 points, identify this long poem about the title *bogatyr* and princess, written by Alexander Pushkin.
ANSWER: R̲ᴜꜱʟᴀɴ ᴀɴᴅ L̲ʏᴜᴅᴍɪʟᴀ [or R̲ᴜꜱʟᴀɴ ɪ L̲ʏᴜᴅᴍɪʟᴀ]

9. At one point in this work, a character notes that "*anthropomorphite* is an appellation as invidious as epithet of *mystic*," after which another character berates him for insisting on "perfect simplicity." After decrying a lack of data, one character in this

work argues that the choice to devise a cosmogony based on the principle of reason instead of the principle of vegetation is entirely arbitrary. This work's tenth section charges that "Epicurus' old questions are yet unanswered," and the eleventh postulates an argument from original position according to which no one who was not already convinced that the universe was created by a "very powerful, wise, and benevolent Deity," would find no evidence to convince himself of that. In this work's second section, Cleanthes analogizes the world to a "great machine," setting off a debate about the argument from design, whereas its ninth section contains an assault on Demea's cosmological argument. For 10 points, name this work nominally narrated by Pamphilus, in which Cleanthes and Demea converse with the skeptic Philo, who is widely considered an avatar of the author, David Hume.

ANSWER: <u>Dialogues Concerning Natural Religion</u>

10. The artist explained the poetic title of one painting of these objects with an evocative description of "Far Away" as "a beautiful, untouched, lonely-feeling place." That painting shows a fantastically oversized version of this object that appears larger than the hilltop peaks in the landscape, and is titled *From the Faraway, Nearby*. The artist paired this object with brown leaves and hollyhock in a surreal series showing these objects floating, and painted an artificial flower used to decorate Hispanic graves, called the calico rose wrapping one of these objects in another work. The artist's best-known painting of this object is subtitled "Red, White, and Blue" and shows one superimposed against a background painted the colors of the American flag as a parody of the idea of the "Great American Painting." The first paintings of them were made after a drought near Ghost Town killed lots of wildlife in the desert. For 10 points, name this series of paintings depicting animal craniums by a New-Mexican artist also known for painting vaginal flowers.

ANSWER: Georgia O'Keeffe's animal <u>skulls</u> [prompt on "bones" or "skeletons"; accept more specific answers such as <u>cow's skull</u>, <u>ram's skull</u>, etc.]

11. After this man left politics, he joined a law firm that's now named for him, Farr and Gallagher, and he wrote a travelogue titled *One World*. During his time as president of the Commonwealth & Southern utility company, he futilely butted heads with David Lilienthal in several negotiations. A threat to reveal his affair with Irita Van Doren hampered his best known political campaign, in which he ran on a ticket with Charles McNary of Oregon. He had an affair with Soon May-ling, Chiang Kai-shek's wife, allegedly saying it was the only time he'd ever been in love. He gained fame for opposing the Tennessee Valley Authority and earned his nickname "the barefoot boy from Wall Street" because of his background as an Indiana farmer who became a dark horse candidate for president over men like Thomas Dewey. For 10 points, name this one-time Republican nominee who lost the 1940 election to FDR.

ANSWER: Wendell <u>Willkie</u>

12. The presence of ionized impurity scattering causes this quantity to scale as the 3/2 power of the temperature, divided by the total ionized impurity concentration. The formation of a two-dimensional electron gas within a heterojunction allows for the creation of a high-frequency transistor whose operation depends on high values of this quantity. This quantity is equal to electron charge times diffusion constant over the quantity Boltzmann's constant times temperature, according to the Einstein relation. The standard way of measuring this quantity is to induce a Hall effect in the sample, calculating this quantity from the product of conductivity, Hall voltage, and thickness, divided by the current times the applied magnetic field. In the Drude model, this quantity can be given for electrons as electron charge times collision time over electron mass, and it's formally defined as the value of the drift velocity per unit of electric field. For 10 points, identify this quantity which characterizes how fast charge carriers move through bulk material.

ANSWER: charge carrier <u>mobility</u> [accept more specific answers like <u>electron mobility</u> or <u>hole mobility</u>]

13. One character in this story proclaims that "we were living in a less spacious age" compared to his older relatives, whom he compares to the Three Graces, inaccurately saying "I will not attempt to play tonight the part that Paris played on another occasion." Another character in this story is fascinated to hear that the monks on Mount Melleray sleep in coffins and subsist entirely on donations. The protagonist of this story imagines painting a portrait of a woman at the top of a staircase, titling it "Distant Memory." Its main character's preference to go on a foreign cycling tour rather than the Aran Islands angers his nationalistic dance partner, who abruptly takes leave of everyone. In this story, the main character has an unpleasant encounter with Molly Ivors, which reminds his wife of her time in Galway, where the "The Lass of Aughrim" was sung to her by her sweetheart Michael Furey. For 10 points, name this story where Gabriel Conroy finds himself shut out of his wife's heart that appears as the final piece in James Joyce's *Dubliners*.

ANSWER: "The Dead"

14. Late in life, this man was involved in a controversy over his promotion of eugenics in his 1987 work *Beyondism*, which was supposed to derive a new science to replace religion. This psychologist classified data relating to an individual into L-data, Q-data, and T-data, which corresponds to data obtained from life, questionnaires, and objective tests. He developed a visual technique for deciding how many components to retain in factor analysis, involving plotting eigenvalues versus their components, a strategy called the scree test. This psychologist's work in trait assessment led him to develop a test which sought to classify individuals along its title number of scales, which include warmth, emotional stability, and social boldness. This man separated reasoning capacity from ability gained from experience in his paradigm of fluid and crystallized intelligence. This student of Spearman distinguished between fluid and crystallized intelligence, in the course of developing a non-verbal method of assessing intelligence to eliminate cultural bias. For 10 points, identify this British-American psychologist who devised the Sixteen Personality Factor Questionnaire and the Culture Fair Intelligence Test.
ANSWER: Raymond Bernard Cattell

15. A synod held at this city excommunicated the deacon Felicissimus, who started a schism here after allying with Novatus. In another meeting held here, called the September Synod, a deacon spoke out against heretical baptism. A council in this city presided over by Marcellinus was convoked by Emperor Honorius, though just two years later, Marcellinus was martyred in this city. Another man from this city authored *De Unitate Ecclesiae*, and famously witnessed a plague named for him; that man, Cyprian, also became a martyr in this city after issuing treatises on dealing with the lapsi population. The appointment of another bishop in this city, Caecilian, led to the spread of the Donatist heresy. A later council held here condemned Caelestius, and was dubbed by St. Augustine as "A Council of Africa." For 10 points, identify this modern-day Tunisian city that had previously fought some Punic Wars with Rome.
ANSWER: Carthage

16. This artist's bookplate features a spilled ink-bottle splashing across a notebook page. This artist was inspired by a Native-American headdress in a Frederic Remington painting and an aerial lawn photograph reminiscent of a tennis court to create a set of four pieces for the sculpture garden at Nelson-Atkins Museum in Kansas City, which depicts large white feathers that must be repainted every year. He once created a set of furry ice cream bars and originally included an inflatable balloon at the top of a work that was initially installed on Beinecke Plaza. This sculptor of the *Shuttlecock* series created a work in which blue bristles flail above a red wheel, with his longtime collaborator Coosje van Bruggen, and assembled an object in the Morse College courtyard at Yale, consisting of a tank-shaped base topped by the title red-tipped, vertical tube. This artist's sculptures include *Typewriter Eraser, Scale X* and *Lipstick Ascending on Caterpillar Tracks*. For 10 points, name this Swedish sculptor of soft sculptures depicting massive everyday objects.
ANSWER: Claes Oldenburg

17. This boy's mother settled a dispute arising from a contest between two of his uncles to see who could shoot an arrow through a gold ring, by offering to tie the ring around this kid's neck; that expert political maneuver got Isander and Hippolochus to resign their claims to the kingdom to this man. The North Wind revived him from unconsciousness brought about by a thigh wound he sustained while killing Tlepolemus. This man's corpse was whisked away by Hypnos and Thanatos after being rescued by Apollo. This man took Hector to task for effusively praising his relatives, who "cowered like hounds before a lion." This man later helped Hector out by leading a diversionary attack on the Greek battlements with Asteropaios and his cousin Glaucus. Zeus sent a shower of blood as an omen of the death of this man, his son, after conceding to Hera that it would be imprudent to save his life in a battle against Achilles's companion For 10 points, name this son of Laodamia, the King of Lycia, who gets killed by Patroclus in the *Iliad*.
ANSWER: Sarpedon

18. In this novel's seventh chapter, a festival is organized to celebrate a successful hunt when the narrator's brother catches a pheasant. After getting beat up by a doctor, its protagonist makes love with a girl who licks the wounds on his fingers. When this novel's protagonist finds a camel shaped can-opener on the ground, he realizes his brother had run away because his dog Leo was beaten to death after it bit a girl. In this novel, the blacksmith carries a hunting rifle and oversees a project to bury hundreds of dead animals. Its protagonist later gets into a fight with a boy named Li when he tries to bury his father who died

on the Korean settlement. In this novel, a soldier who deserted from the army is caught and executed when the villagers return to the valley. After Minami is threatened by the headsman, the narrator of this novel is the only boy who refuses to keep quiet about a plague that contaminated the village. For 10 points, name this novel about a group of reform school boys who are trapped in a plague-infected valley, written by Kenzaburo Oe.

ANSWER: Nip the Buds, Shoot the Kids [or Memushiri Kouchi]

19. This ruler's army succeeded at capturing the local chief Painé Guor, who was known as the "sky-blue fox." That chief's predecessor Yanquetruz had once formed an alliance with this ruler, but then broke the pact and led raids against his government, evading the capture of his generals, such as Jose Aldao. This man, who ascended to power after a victory at Márquez Bridge, had his early rule plagued by a civil war against the Unitarian League, but the passage of the Federal Pact secured his power base. He met defeat at the Battle of Caseros and fled to the United Kingdom after his death squad La Mazorca was smashed up. Known by the title "Restorer of the Laws," he was replaced by the governor of Entre Ríos, Justo Jose de Urquiza. Urquiza had forged an alliance with Brazil to depose this caudillo, who declared war on Brazil in 1852. For 10 points, name this man, the longest serving dictator in 19th century Argentina.

ANSWER: Juan Manuel de Rosas

20. Aerodynamic entrainment is the only way to initialize this process given no outside disturbances. As this process continues, it reaches a steady state where entrainment, shear stress, and mass flux profile decrease and effective roughness greatly increases. The number of splash ejecta increases linearly with impact speed when modeling this phenomenon. The mass affected by this phenomenon is given by a constant times the density of air over the gravitational acceleration, times a size constant, times the cube of the friction velocity of the log wind profile. Described by the Bagnold formula, this process is an aeolian transport process that is typically more dominant than suspension and creep, and is responsible for the undulating form of dunes. For 10 points, name this process by which sand is transported by bouncing off of other grains, derived from the Latin word for "leap".

ANSWER: saltation

Tiebreaker

21. The Khovanov bracket is a chain complex of graded vector spaces whose graded value of this kind is the Jones polynomial. The sum of the indices of the critical points of a continuous tangent vector field with isolated singularities on a compact, connected, orientable surface is given by this number. The Riemann-Hurwitz formula describes the relationship between this value for two different surfaces when one is a covering space of the other. For a given CW-complex, this number is defined as the alternating sum of the ranks of the nth homology groups, or equivalently as the alternating sum of the number of n-cells. The global integral of the Gaussian curvature of an oriented, connected, closed, compact, regular space is given by two pi times this number. For a polyhedron, this number can be calculated by taking the number of vertices and subtracting the number of edges then adding the number of faces. For a convex polyhedron this number is always equal to two. For 10 points, name this number which describes the shape of a topological space, named for a Swiss mathematician.

ANSWER: Euler characteristic [prompt on "chi", accept Euler-Poincare characteristic]

1. Before assuming the namesake form, this being rolled over four times, first turning black, then brown, then red. For 10 points each:
[10] Name this being who taught the Lakota the seven sacred rituals and gave them the holy pipe, after summoning a white cloud to incinerate a man who approached her with lusty intentions. She was syncretized with the Virgin Mary.
ANSWER: White Buffalo Woman [or White Buffalo Calf Woman. or Pte Ska Win; or Pte San Wi; prompt on "Buffalo Woman"]
[10] In an Okanogan myth, a buffalo temporarily becomes best friends with this trickster, despite him urinating on the buffalo's skull. He creates mankind from a ball of mud, and along with Raven, he creates various mountains and rivers.
ANSWER: Coyote [not really interested in hunting down thousands of alternate answers]
[10] According to a Blackfeet Algonquin story, Sacred Otter once dreamt of a tepee decorated with a "glaring red" buffalo and four yellow legs with green claws, reminiscent of the anatomy of this other creature, a frightening omniscient being who battles the whale and is responsible for meteorological phenomena.
ANSWER: Thunderbird [or Wakiya; or Kw-Uhnx-Wa; or animikii]

2. Joan Gardy Artigas designed the black tiles on this sculpture that depicts its two title figures as a vulva embedded on a 70-foot tall phallus. For 10 points each:
[10] Name this sculpture that sits in a pool at a Barcelona park named for its sculptor, and was designed as part of a trilogy of works to welcome visitors to the city as they arrive by sea, by air, and by land.
ANSWER: Dona i Ocell [or Woman and Bird]
[10] This Catalan surrealist created *Dona i Ocell*, but is better known for his paintings such as *Dog Barking at the Moon* and *Harlequin's Carnival.*
ANSWER: Joan Miró i Ferrà
[10] Miro designed this thirty-nine foot tall sculpture in Brunswick Plaza that was originally titled *The Sun, the Moon, and One Star*. It features a fork projecting from the top of its base.
ANSWER: Miro's Chicago

3. This large geographic feature was first spotted in infrared by the Hubble Space Telescope in 1994, and its geology appears to be superficially similar to that of Earth. For 10 points each:
[10] Identify this continent-like feature. The brightness in channels located on this continent is believed to be due to collection of tightly-packed transparent spherical sediments which are made of water ice.
ANSWER: Xanadu
[10] Xanadu is a feature on this largest moon of Saturn whose atmosphere is composed mainly of nitrogen and methane.
ANSWER: Titan
[10] The RADAR instrument on the Cassini-Huygens craft has detected hundreds of dark features in Titan's polar regions, which are hypothesized to be this type of feature, which may be responsible for the lack of noble gases in Titan's atmosphere.
ANSWER: hydrocarbon lakes [accept hydrocarbon seas, prompt on "lakes"]

4. George Meredith created a modified version of this poetic form with two extra lines in his collection *Modern Love*. For 10 points each:
[10] Name this type of poem that contains a turn of thought called the "volta" in between the octave and the sestet in its Petrarchan variety.
ANSWER: sonnet
[10] Gerard Manley Hopkins created this shortened form of a sonnet that consists of a sestet, a quartet, and a half-line tail. "Pied Beauty" is an example of this type of sonnet.
ANSWER: curtal sonnet
[10] This term refers to a sequence of fifteen linked sonnets in which the last line of the previous sonnet is repeated as the first line of the next. Marilyn Nelson's "A Wreath for Emmett Till" is a contemporary example of this form sometimes called a *sonnet redoublé* .
ANSWER: a crown of sonnets[or sonnet corona; or heroic crown]

5. This man established the *Monumenta Germaniae Historica*, a massive collection of sources on German history, and was a personal counselor to Tsar Alexander I of Russia. For 10 points each:

[10] Name this Prussian statesman who worked with Hardenberg to issue reforms, including the edict of October 1807, which abolished serfdom. His reforms are often seen as the foundation of German unification.

ANSWER: Baron vom STEIN [or Heinrich Friedrich Karl Reichsfreiherr vom und zum STEIN]

[10] The reforms were a result of Prussia getting its ass kicked in this battle, which was fought on October 14, 1806, the same day as the Battle of Auerstadt.

ANSWER: Battle of JENA

[10] At the same time as Stein's reforms, this general reformed the Prussian army as head of the military reform commission set up by Frederic William III in 1807. Along with Blucher, this man's subordinates included Boyen, Gneissenau, and Clausewitz, and his many reforms included the Landwehr.

ANSWER: Gerhard von SCHARNHORST [Gerhard Johann David Waitz von SCHARNHORST]

6. This student of Bernardino Telesio popularized his teacher's anti-Aristotelian philosophy in works such as the *Great Epilogue*, later expanded into *Philosophia realis*, and *Philosophy as Demonstrated by the Senses*. For 10 points each:

[10] Identify this Renaissance thinker who undertook to rescue the title practice from "superstitious friends of demons," and show how it could affect the *spiritus* in his *On the Sense of Things and on Natural Magic*.

ANSWER: Tommaso CAMPANELLA

[10] Campanella is best known for this treatise on the title utopian locale, which takes the form of a dialogue between a Genoese captain and a knight and describes a state surrounded by seven walls where all property is held in common and God is worshipped under the guidance of the chief priest Hoh.

ANSWER: The CITY OF THE SUN [or La CITTA DEL SOLE; or CIVITA SOLIS]

[10] Late in life, Campanella wrote a treatise allegedly "conquering" this philosophical position. Noted philosophers who advocated for this position include the Baron d'Holbach and Daniel Dennett, the latter of whom, along with Richard Dawkins, is part of a loosely connected group known as the "New" adherents of this position.

ANSWER: ATHEISM

7. Answer some questions about your friend and mine, heat capacity, for 10 points each.

[10] The ratio of the heat capacity at constant volume to heat capacity at constant pressure is designated by this term. Throughout its namesake type of process, the pressure times the volume raised to this quantity must stay constant.

ANSWER: ADIABATIC INDEX [or ISENTROPIC INDEX; or ISENTROPIC EXPONENT; or INSENTROPIC expansion FACTOR; accept any substitution of ADIABATIC for ISENTROPIC and vice versa]

[10] The heat capacity of an arbitrary system can be obtained by multiplying the square of the temperature by the second derivative with respect to temperature of this quantity.

ANSWER: GIBBS free energy [prompt on "free energy"]

[10] According to this statement, the heat capacity of any system must vanish at absolute zero; equivalently, entropy also vanishes at absolute zero, according to this statement.

ANSWER: THIRD LAW of thermodynamics [accept NERNST-Simon postulate or theorem]

8. All he wanted to do was to see *Norma*. Too bad Count Isouard and the Duke of Brunswick wouldn't let him. For 10 points each:

[10] Name this American chess prodigy, known for his open games, quick development, and sacrificial tactics. His tour in Europe included his legendary Opera game and his victories over Lowenthal, Harrwitz and Anderssen.

ANSWER: Paul Charles MORPHY

[10] The Opera game began with an open game followed by the white knight to f3, leading Morphy's opponents to respond with this defense named after a French player, which consists of moving the queen's pawn up one square to d6.

ANSWER: PHILIDOR Defense

[10] Morphy hailed from this American city, where he ran the chess machine. This site of the Battle of Liberty Place had another gaming-related kerfuffle when its state's corrupt lottery was exposed during Reconstruction. This city also names a major battle fought after the Treaty of Ghent was signed, ending the War of 1812.

ANSWER: NEW ORLEANS

9. Name these props in *Waiting for Godot*, for 10 points each.
[10] All of the characters in the play wear these objects, and in its second act, they swap them in a frenetic game. In its first act, Vladimir terminates Lucky's inane stream-of-consciousness by knocking this object of his to the ground.
ANSWER: HATS [accept kinds, like BOWLERS, ANTHONY EDENS, FEDORAS, PORK PIES, etc]
[10] The existential absurdity in the play is highlighted by Pozzo's constant consultation of this object, a "half-hunter" belonging to his grandfather. He later loses it and is devastated.
ANSWER: a pocket WATCH
[10] Though Estragon replies "is that all there is?" upon being offered one of these objects by Vladimir, he later dramatically professes that he will never forget this object, and picks it up off the ground when it is dropped in the hubbub of Pozzo's arrival.
ANSWER: a CARROT

10. Bernard Fagg conducted the first systematic study of this civilization, whose village of Taruga on the slopes of the Jos plateau revealed traces of slag heaps and furnaces. For 10 points each:
[10] Name this Iron Age culture which flourished in Nigeria beginning around 900 BC, and dying out around 200 CE. It's often referred to as a "figurine culture" for its clay figurines and iron smelting.
ANSWER: NOK culture
[10] The Nok culture was the original sub-Saharan producer of life-sized figurines in this material. More famously, Shi Huangdi had his mausoleum guarded by life-sized warriors of this material.
ANSWER: TERRACOTTA
[10] The art of the Nok culture thrived around the uplands named for this river, which is the longest tributary of the Niger. Once known as the Chadda, it rises in northern Cameroon and flows west to meet the Niger at Lokoja.
ANSWER: BENUÉ River [or BENOUE River]

11. Several members of this movement subscribe to the code of "Nine Noble Virtues," first codified by John Yeowell and John Gibbs-Bailey. For 10 points each:
[10] Give this term used by a movement of heathen neopagans, including an American-based "Folk Assembly" led by Stephen McNallen, which publishes a periodical called the Runestone.
ANSWER: ASATRU
[10] Valgard Murray founded a related group called the Asatru Alliance, which holds an annual meeting known by this name. Of course, it's also the name for the national parliament of Iceland.
ANSWER: ALTHING [or ALTHINGI; or ALPINGI]
[10] Most Germanic neopagans in the US are not part of umbrella organizations like the Asatru Folk Assembly or The Troth, but rather they meet in local groups with this name indicating familiar bonds. These groups may be composed of individuals or hearths, and are often led by a member of the gothar priesthood.
ANSWER: KINDREDS

12. The S4 segment in the alpha subunit of these proteins acts as a sensor, and the region between S5 and S6 contains the extracellular P-loops. For 10 points each:
[10] Name these proteins that contain a pore lined with glutamic acid residues, acting as a selectivity filter for similar substances larger than the namesake one.
ANSWER: VOLTAGE-GATED SODIUM CHANNELS [or VOLTAGE-GATED Na+ CHANNELS; or VGSCs; accept VOLTAGE-SENSITIVE and VOLTAGE-DEPENDENT instead of voltage-gated; accept Nav CHANNEL the whole underlined answer is needed, so prompt on "sodium channels" and "voltage-gated channels" and "ion channels" and "voltage-gated ion channels"]
[10] This really dangerous substance binds to voltage-gated sodium channels, preventing them from working correctly. It has an LD-50 of 334 micrograms per kilogram, and is found pretty much everywhere inside a pufferfish.
ANSWER: TETRODOTOXIN [or TTX; murder someone if they start giving the IUPAC name, which is (4R,4AR,5R,6S,7S,8S,8AR,10S,12S)-2-AZA
[10] Tetrodotoxin is commonly used in voltage clamp experiments because it prevents the initiation of this event, in which the membrane voltage rises, then falls, as a signal travels down the axon of a neuron.
ANSWER: ACTION POTENTIALS [or nerve IMPULSES; or SPIKES]

13. The protagonist of this novel loves Betty Prail, who is raped by Tom Baxter. For 10 points each:

[10] Name this parody of Horatio Alger, a satirical novel that tracks the protagonist's literal dismemberment as he progressively loses his scalp, teeth, an eye, part of his hand, and one leg.
ANSWER: A Cool Million
[10] This author wrote about the dismantling of Lemuel Pitkin in *A Cool Million* and about a depressed newspaper columnist victimized by his boss Shrike in his novella *Miss Lonelyhearts*.
ANSWER: Nathanael West
[10] In *The Day of the Locust*, Tod Hackett first sees this Satanic dwarf sleeping in a hotel hallway after he was kicked out by a prostitute. This character organizes an illegal cockfight with Miguel and attacks the cowboy Earle Shoop's balls until he collapses.
ANSWER: "Honest" Abe Kusich [accept either]

14. The namesake of this raid was kicked in the head by a horse as a child, which led him to abandon equestrian pursuits and to pick up music and eventually write the campaign song for Abraham Lincoln in 1860. For 10 points each:
[10] Name this Union cavalry raid through central and eastern Mississippi. Ulysses Grant ordered its namesake to depart from La Grange, Tennessee in April 1863, and to destroy as many railroads and bridges as he could on his way to Baton Rouge.
ANSWER: Grierson's raid [Benjamin Grierson's his name]
[10] Grierson's raid was meant to divert Confederate troops from Grant's successful siege of this city, which was surrendered by John Pemberton on July 4th 1863, giving the Union control of the Mississippi.
ANSWER: Vicksburg, Mississippi
[10] Later in the war, Grierson served under Samuel Sturgis when Sturgis was hammered at this battle by Nathan Bedford Forrest in June of 1864. Bedford prevented Sturgis from marching on Tupelo by confronting him at the namesake muddy intersection, cementing his legacy as an ace cavalryman.
ANSWER: Battle of Brice's Crossroads

15. Note to moderator: do not read subtitle of part 1]One chapter in this work analyzes the "Bonapartist Ideology," and the subsequent chapter suggests that there is not a single leader who will "fail to speak after the example of" the Sun King. For 10 points each:
[10] Identify this work which analyzes the internal dynamics of the title institutions, the most famous work of Robert Michels.
ANSWER: Political Parties: A Sociological Study of the Oligarchical Tendencies of Modern Democracy [or Zur Soziologie des Parteiwesens in der modernen Demokratie; Untersuchungen Über die oligarchischen Tendenzen des Gruppenlebens]
[10] Michels' *Political Parties* is best known for its statement that control in any organization eventually falls under the control of a small group of leaders, the "iron law" of this phenomenon.
ANSWER: oligarchy
[10] With Martin Trow and James Coleman this sociologist wrote *Union Democracy*, which explored how the International Typographical Union avoided some of the tendencies of the iron law of oligarchy. He also wrote *The Politics of Unreason* with Earl Raab.
ANSWER: Seymour Martin Lipset

16. One painting shows this woman with her siblings George and Henrietta just before her marriage to William Cavendish. For 10 points each:
[10] Name this 18th century socialite who was depicted wearing a fashionable slanted black hat in a notable Gainsborough portrait that was stolen by Adam Worth but later returned to Chatsworth House after a descendant won it in an auction.
ANSWER: Georgiana Cavendish, Duchess of Devonshire [accept either name; prompt on "Cavendish"]
[10] This Swiss painter also painted the Duchess of Devonshire with her siblings, but is better known for her neoclassical Shakespeare scenes, such as *Miranda and Ferdinand in The Tempest*.
ANSWER: Angelica Kauffman
[10] Nathaniel Hone satirized Kauffman's close friendship with this painter in a piece titled *The Conjurer*. Kauffman painted a 1767 portrait of this English artist who was the first president of the Royal Academy and advocated the "grand Style" in his *Discourse on Art*.
ANSWER: Sir Joshua Reynolds

17. In a New York Review of Books article, Michael Wood wrote that this collection's author disavowed it later in life, because "it helped people to die rather than to live." For 10 points each:

[10] Name this collection, published somewhat serially in 1933, 1935, and 1947, whose author expressed sympathy with the Republican cause in the Spanish Civil War in its segment "Spain in Our Hearts," and repeated "Come and see the blood in the streets!" in its poem "I Explain a Few Things."

ANSWER: Residence on Earth [or Residencia en la Tierra]

[10] This collection by the same author includes sections titled "The Fugitive" and "The Sand Betrayed," as well as one which exhorts: "Arise to birth with me, my brother."

ANSWER: Canto General [or General Song]

[10] This author blended political commentary about Latin America with poetry in those collections, *Residence on Earth* and *Canto General*. He also wrote the *Elementary Odes*.

ANSWER: Pablo Neruda [or Neftali Ricardo Reyes Basoalto]

18. This weapon's invention is credited to the architect Callinicus of Heliopolis, who may have mixed naphtha with some combination of sulfur and charcoal. For 10 points each:

[10] Name this incendiary weapon used by the Byzantine navy to burn even wet and floating ships, which was useful for Constantine IV in repelling the 674 Arab siege of Constantinople.

ANSWER: Greek fire [prompt on partial]

[10] Most of the images of things like Greek fire and Varangian guards that we know today come from the *Synopsis Historion*, and its illuminated copy kept in Madrid, which was written by this Byzantine historian. He covered the time from Nicephorus' death in 811 through the deposition of Michael VI in 1057.

ANSWER: John Skylitzes [Ioannis Skyllitzes]

[10] Greek fire was also quite helpful in turning back the second siege of Constantinople in 717, a military success for this emperor, who founded the Isaurian Dynasty and launched the era of iconoclasm.

ANSWER: Leo III [prompt on just "Leo" accept Leo the Syrian or Leo the Isaurian]

19. Kids from the 19th century often sang a rhyme that goes "Papa Haydn's dead and gone, but his memory lingers on," to the tune of the first bars of this symphony's second movement. For 10 points each:

[10] Name this 1791 Haydn symphony, in which that quiet second movement opening theme is suddenly followed by a fortissimo chord.

ANSWER: Surprise Symphony [or Haydn's Symphony No. 94; or H. 1/94]

[10] The Andante of the *Surprise Symphony* opens with variations on this tune in 2/4 time. Mozart's K.265/300e is a theme and set of twelve variations on this tune, originally a French folk song.

ANSWER: "Twinkle, Twinkle Little Star" [or "Baa, Baa, Black Sheep"; or the "Alphabet Song"; or "Ah vous dirai-je, Maman"]

[10] A particularly Wagnerian set of variations on the theme was written by this Hungarian composer of a *Serenade in C Major*, *American Rhapsody*, and *Fugue for Left Hand*. This man's grandson Christoph directed the Cleveland Orchestra from 1984-2002.

ANSWER: Erno Dohnanyi [prompt on "Dohnanyi"]

20. A beta-keto ester of this kind is transformed into an beta-ketocarboxylic acid of this type in the Carroll rearrangement. For 10 points each:

[10] Name this functionality consisting of a methylene bridge connected to a vinyl group, which also called 2-propenyl groups. Hydrogens bonded to the carbon atom at this position are 15% weaker than normal C-H bonds.

ANSWER: allyl groups

[10] Allylic carbocations are easily formed, and easily stabilized, because of this phenomenon, in which the charge is delocalized over many electrons and the true structure is somewhere in between multiple namesake structures.

ANSWER: resonance

[10] Alkenes containing allylic hydrogens can react with compounds containing double bonds in this reaction, a pericyclic reaction in which the double bond shifts to the allylic site and a 1,5- hydrogen shift happens.

ANSWER: Alder-ene reaction

21. One winning commander in this battle, Liu Bei, employed a general who legendarily invented a heavy polearm weapon, named Guan Yu. For 10 points each:

[10] Name this massive battle fought in 208 CE eight years after Guandu. In it, an alliance of the Shu and Wu states defeat Cao Cao's massive Wei army, thanks to the use of fire ships and a very muddy retreat route.

ANSWER: Battle of Red Cliffs [or Battle of Chibi]

[10] The Battle of Red Cliffs occurred during this chaotic period of Chinese history that followed the collapse of the Han Dynasty, and draws its name from the competing states of Wei, Shu, and Wu.

ANSWER: Three Kingdoms period

[10] This brilliant strategist under Liu Bei probably did not actually use straw mannequins to steal 100,000 arrows from Cao Cao's army. He did, however, invent a repeating crossbow and a floating lantern used for communication.

ANSWER: Zhuge Liang [or Marquis of Wu; or Kongming; or Wolong; or Sleeping Dragon]