

ATHENA (Academic Tournament for High School Education N' Achievement) II

Written and edited by Megha Prasad, Anna Cambron, Caroline Mao, Chloe Levine, Clark Smith, Colin Cantwell, Jakob Myers, James Park, Julia Tong, Kevin Kodama, and Piper Winkler.

PACKET 8 TOSSUPS

1. This task is performed after the pattern string is preprocessed in the Boyer-Moore Algorithm. In quantum computers, this task can be performed using Grover's algorithm. Algorithms used to perform this task can be separated into breadth-first and depth-first types. A subset of algorithms that perform this task is (*) shortest-path algorithms. A type of this task that involves continuously checking whether a value is higher or lower than a midpoint is known as the binary type. For ten points, name this task central to "engines" such as Google that retrieves a certain item from a dataset.

ANSWER: searching [accept breadth-first search; accept depth-first search, accept binary search, accept search engines] <KK; Science Other>

2. The woman in the poem "La Belle Dame Sans Merci" is the child of one of these people. One book of a work titled for one of these creatures includes a woman impregnated by rays of sunshine and the lady knight Britomart. In that work, the sorcerer Archimago deceives Una into leaving the (*) Redcrosse Knight. One of these creatures transforms Nick Bottom's head into that of a donkey's and accidentally applies a love potion to Lysander instead of Demetrius in *A Midsummer Night's Dream*. For 10 points, name this magical creature, examples of which include Puck and Tinker Bell.

ANSWER: fairies [or fairy; accept The Faerie Queene] <CM; British Literature>

3. In this country's national epic, the protagonist battles the giant Adamastor and falls in love with Tethys on the Isle of Love. An author from this country wrote the "factless autobiography" of his heteronym, Bernardo Soares, in *The Book of Disquiet*. This country home to the author of *The Lusads* is the setting of a novel where the (*) doctor's wife hides her immunity from "the white sickness." An author from this country wrote about the title epidemic rendering a city unable to see in *Blindness*. For ten points, name this country home to Jose Saramago, who wrote *The History of the Siege of Lisbon*.

ANSWER: Portugal <CM; European Literature>

4. One song titled for one of these people states that its singer "sells crack on paypal just like" that person and is the "trapper of the century". Another song titled for one of these people juxtaposes that man's name with the number 666 and was a hit for Killer Mike. A song titled for one of these people alleges that a different one of these people "cheated in (*) Florida, would that make him a Seminole?", while a group of white rappers including G-Eazy and Macklemore recorded a second version of the YG song "FDT", which was written to oppose one of these people. For 10 points, Lil Pump and Young Jeezy wrote songs celebrating Barack Obama, a holder of what position?

ANSWER: President of the United States [accept "Obama", "Reagan", "My President", "FDT" before mention, Donald Trump, or George W. Bush; prompt on incomplete answer] <JM; Popular Culture>

5. In NMR spectroscopy, this quantity is closely associated with chemical shifts. According to MO theory, this quantity's derivative is equivalent to negative hardness. This quantity's name was coined in order to replace the term "oxygenicity" by Swedish chemist Jacob Berzelius. This quantity can be calculated by (*) averaging ionization energy and electron affinity, but a more common scale for this quantity measures from 0.37 to 3.98 and was developed by Linus Pauling. For ten points, name this quantity that measures an atom's ability to attract electrons.

ANSWER: electronegativity <KK; Chemistry>

6. This action was the primary goal of the "doughnut strategy", which was partially created by Derek Burney. One goal of this action was to mitigate "regulatory chill" by removing the ISDS mechanism. Robert Lighthizer was appointed to his current position primarily to accomplish this action. This action was achieved by passing the (*) USMCA, which established tighter "rules for origin" for manufactured cars. For 10 points, name this goal that Donald Trump promised to accomplish with Canada, the United States, and Mexico to do away with what he called "the worst deal in the history of trade deals".

ANSWER: renegotiating NAFTA [accept anything involving getting rid of or changing the North American Free Trade Agreement, accept passing the USMCA or United States-Mexico-Canada Agreement before mentioned] <KK; Current Events>

7. Francisco Goya's painting The Third of May, 1808 inspired a painting by this artist in which a firing squad carries out the Execution of Emperor Maximilian. A bowl of oranges is placed below a blonde waitress standing in front of a mirror in another painting by him. Titian's Venus of Urbino inspired a painting by this artist of A (*) Bar at the Folies-Bergère in which the title woman, who is modeled after Victorine Meurent, lies next to a black cat. This artist included a basket of fruit and a discarded dress in the foreground of a scandalous painting depicting a nude picnic. For 10 points, name this French artist of Olympia and The Luncheon on the Grass.

ANSWER: Édouard Manet [do not accept "Monet"] <WJ; Fine Arts Visual>

8. The Marquis de Condorcet names a criterion concerning the outcome of this action. Non-imposition and independence of irrelevant alternatives are two criteria to create a fair system for performing this action. Duncan Black proposed that the outcome of this action depends on which of two (*) options is closest to the median. The Borda Count is used in this activity, which Kenneth Arrow claims cannot be fair when there are three or more options. For 10 points, name this action used to select candidates for political office in democracies.

ANSWER: voting [or equivalents like going to vote; or voting systems; prompt on elections] <CS; Social Science>

9. During Paul's sermon on the Areopagus, he claims that God "hath made of one [this] all nations of men." Romans 3 notes Christ was "set forth to be a propitiation through faith in" this thing. Hebrews 9 claims that Christ came into the holy place by his own [this] in a portion of the book connecting Jesus to the Old Testament through this stuff since "without [it] is no (*) remission." A "new testament" is created through this thing in Matthew 26, just before Jesus and his disciples go to the Mount of Olives. It is the answer to the question "What can make me whole again" in a hymn titled "Nothing but [this]." For 10 points, name this substance which is symbolized by Communion wine.

ANSWER: blood of Jesus [or Holy Blood; prompt on wine before mention] <CS; Religion and Mythology>

10. In a short story from this country, Janet goes to a planetarium on a visit to her dying father. This setting of “The Moons of Jupiter” is also home to an author who wrote a novel about Grace Marks’ alleged murder of her employer, Thomas Kinnear, titled *Alias Grace*. That author wrote about a protagonist who attends a Prayvaganza and finds her friend (*) Moira working at Jezebel’s. In that novel by an author from this country, Offred chronicles her life in the dystopian regime of Gilead. For ten points, name this country home to Alice Munro and the author of *The Handmaid’s Tale*, Margaret Atwood.

ANSWER: Canada <CM; World Literature>

11. Alexander Scriabin requested that his *Mysterium* be played in the Himalayas right before this event. The *Pie Jesu* comes from a hymn by Thomas of Celano about this time period. A chamber piece named for this event opens with the clarinet and violin imitating birdsongs over the cello and piano accompaniment in the “Crystal Liturgy” movement; that (*) quartet was premiered in Gorlitz POW camp. A hymn about this time period which opens the Sequentia of Mozart’s *Requiem* is the *Dies Irae*. For 10 points, name this event which is the subject of Olivier Messiaen’s *Quartet for the End of Time*.

ANSWER: end of the world [accept reasonable equivalents; specifically, accept end of time before mention; accept apocalypse or “Apocalyptic” symphony; prompt on *Dies Irae* or “Day of Wrath”] <CS; Fine Arts Auditory>

12. In this polity, Reverend James Maury was awarded one penny in damages after he sued because clergymen’s wages were no longer paid in crops. This polity in which the “Parson’s Cause” took place was the site of a war in which Chief Cornstalk and Chief Logan led a Seneca-Cayuga and Shawnee alliance against Lord Dunmore. An uprising here against Governor (*) William Berkeley was Bacon’s Rebellion. Tobacco plantations were established around the James River in this colony. It was governed by the House of Burgesses. For 10 points, name this colony with capital at Jamestown, the namesake of a modern southern state.

ANSWER: Virginia Colony <KK + CC; American History>

13. This person led a campaign against the Gabiniani after they killed the sons of Bibulus. This ruler was nearly toppled by a sister while under siege; that sister was controversially executed at the Temple of Artemis. This ruler’s successor was granted titles through a series of Donations, but he ruled for just eleven days due to his execution by (*) Octavian. This ruler fell from power after fleeing from the Battle of Actium. This monarch ruled territory jointly with Ptolemy XIII, before becoming sole ruler through the help of Julius Caesar. For 10 points, name this last pharaoh of Egypt.

ANSWER: Cleopatra VII Philopator <KK; Ancient and British History>

14. Herniation of this structure through the lumbocostal triangle or foramen of Morgagni occurs in 1 in 2000 live births. This structure is supported by the median, medial, and lateral arcuate ligaments. The vagus nerve passes through an opening in this structure called the esophageal hiatus, where it forms an artificial sphincter that prevents acid reflux. Hoover’s sign indicates that this structure is flat, often signaling (*) COPD. This C-shaped structure is the boundary between the abdominal cavity and the thoracic cavity that it aids in expanding. It spasms during hiccups. For 10 points, name this sheet of muscle which aids in deep breathing, situated beneath the lungs.

ANSWER: thoracic diaphragm <CS; Biology>

15. One of this author's protagonists attempts to bribe the Pope and blackmails her previous husband, Ralph, to find the money to marry the Catholic Raymond de Chelles. This creator of Undine Spragg also wrote a novel in which a failure to succeed in the New York "marriage market" leads to the suicide of (*) Lily Bart. This author of *The Custom of the Country* created a resident of Starkfield who sleds into a tree when he tries to run away with Mattie Silver. For ten points, name this author of *The House of Mirth* and *Ethan Frome*.

ANSWER: Edith **Wharton** [accept Edith Newbold **Jones**] <TDG; American Literature>

16. Alice Walker accused this storyteller, whose legacy is maintained by the Wren's Nest, of "stealing her heritage" through his works in "The Dummy in the Window." One of his characters tricks an enemy into trading places with him by saying he's being paid a dollar a minute to act as a scarecrow. That character created by him leads two others into a cavern of bees after promising to take them to his (*) "laughing place." In his most famous story, a rabbit trapped after punching a tar-baby tricks Br'er Fox into throwing him into the briar patch. For 10 points, name this storyteller created by Joel Chandler Harris who shares his name with the twin brother of Romulus.

ANSWER: Uncle **Remus** [accept Joel Chandler **Harris** before mention] <CS; Religion and Mythology>

17. In this modern-day country, the assassination of an empress who served as regent for her grandson Iyoas sparked the Zemene Mesafint period. One empire in this country was said to have been destroyed by a Jewish queen named Gudit. Following that empire's decline, this country was ruled by the Zagwe dynasty. One ruler of this country, Zewditu, uncovered a discrepancy in the Treaty of Wuchale. The rulers of this country's empire of (*) Axum were said to be descendants of the Queen of Sheba. For 10 points, name this African country where Queen Taytu founded Addis Ababa.

ANSWER: **Ethiopia** <KK; World History>

18. Zeng Fanzhi painted a parody of this painting with watermelon strewn throughout. Giampietrino's full-size copy of this painting allowed for its 20-year restoration. A curtain made to protect this painting flaked away the feet under a table in it. A man in this painting who places his hand on the shoulder of someone swooning holds a knife pointed backward behind his back, next to a third man whose elbow knocks over a (*) salt cellar. Thomas points his index finger upward in doubt in this painting, while Matthew and Thaddeus look to Simon the Zealot for an answer. For 10 points, name this Leonardo da Vinci painting in which Jesus announces a betrayal during a meal.

ANSWER: *The **Last Supper*** [or ***L'Ultima Cena***] <CS; Fine Arts Visual>

19. During this period, the radical "Two Thousand Words" Manifesto was allowed to be published. This period's Action Programme included recognition of Israel and the end of democratic centralism as part of reforms made by the KSC. The end of this period saw the blacklisting of (*) Václav Havel. This period began upon Alexander Dubcek's election as First Secretary of the Communist party. This period led to military occupation that lasted until the Velvet Revolution. For 10 points, name this 1968 period of liberalization in the capital of Czechoslovakia.

ANSWER: **Prague Spring** (also accept **Prazko Jaro**) <BA; European History>

20. A material commonly used to make these devices develops a chromium oxide layer to protect them from oxidation. A three-terminal type of these devices commonly used in audio equipment is called a potentiometer. The value of one of these devices can be calculated using a (*) Wheatstone bridge. The total effect of these devices is found by adding the reciprocals of their strengths when they are placed in parallel. For ten points, name these circuit elements that oppose current flow and have their strength measured in ohms.

ANSWER: electrical resistors <KK; Physics>

PACKET 8 BONUSES

1. The feu-follet of Louisiana and Boi-tata of Brazil are examples of this natural phenomenon. For 10 points each:
[10] Name these phenomena, which Alessandro Volta explained as the result of natural electricity interacting with marsh gas. They supposedly draw away from those who approach.

ANSWER: **will-o'-wisps** [or **will-o'-the-wisps**; or **ignis fatuus**]

[10] Balls of light that appear above this river are called Naga fireballs, as they are believed to be created by Phaya Nagas. This river flows through a lake called the Tonle Sap.

ANSWER: **Mekong** river

[10] A similar phenomena called Chir batti appear in the Rann of Kutch near this border. This international border divides two parts of the Kashmir region..

ANSWER: The **India-Pakistan** border [accept in either order; prompt if only one country is given] <CS; Geography>

2. This author of the Union Army's fife and drum manual is somewhat more ignominiously known for founding the Virginia Minstrels, which was the world's first blackface minstrel group. For 10 points each:

[10] Name this banjo player who probably wrote "Old Dan Tucker." Abraham Lincoln really admired his song "Dixie," despite its laudatory tone towards the South.

ANSWER: Dan **Emmett** [or Daniel Decatur **Emmett**]

[10] Bill Monroe is called the "Father" of this genre of music often performed with the banjo. This genre is usually associated with Appalachia, particularly Kentucky.

ANSWER: **Bluegrass**

[10] Henry Ossawa Tanner's painting *The Banjo Lesson* is a latter example of this type of painting depicting ordinary domestic life. Vermeer painted many scenes described by this term, such as *The Milkmaid*.

ANSWER: **genre** painting [or **genre** views; or **genre** scenes] <CS; Fine Arts Other>

3. This collection includes one poem whose second section questions "Why should she give her bounty to the dead?" and begins with "complacencies of the peignoir." For ten points each:

[10] Name this poetry collection which "Sunday Morning" and "Disillusionment of Ten O'Clock." Its most famous entry contains an image in which "Among twenty snowy mountains / The only moving thing / Was the eye of the blackbird."

ANSWER: **Harmonium**

[10] "It was evening all afternoon" in the last section of "Thirteen Ways of Looking at a Blackbird," a poem by this author of *Harmonium*.

ANSWER: Wallace **Stevens**

[10] A "dresser of deal" lacks "three glass knobs" in this poem by Stevens which begins, "Call the roller of big cigars."

ANSWER: "The **Emperor of Ice-Cream**" <CM; American Literature>

4. One version of this theorem implies that an object the size of a pea could be cut into pieces and reformed into one the size of the Sun. For 10 points each:

[10] Name this paradox which states that a solid such as a sphere could be decomposed and remade into two identical copies each with the volume of the original without morphing the decomposed pieces in any way or adding new pieces.

ANSWER: **Banach-Tarski** paradox [or theorem]

[10] In the formula for the volume of a sphere, this will be the power on the radius; intuitively, it is one more than the power in the volume for a circle's area since a sphere has one more dimension than a circle.

ANSWER: **three** [or **3**]

[10] Suppose you were only given a cross-section of a sphere. You could use a method based around the volumes of cylindrical "shells" to find the volume of the whole sphere, or, more thematically, use this other method, whose formula resembles the integral form of a sphere's volume, to find its volume,

ANSWER: **disk** method [or **disc** integration; accept **washer** method] <CS>

5. A scientist from this country modified her countryman's most famous theory, adding the extra qualifier "nearly" to its name. For 10 points each:

[10] Name this country home to the developer of the neutral theory of molecular evolution. A professor born in this country won a Nobel Prize for discovering the green fluorescent protein with his American students Martin Chalfie and Roger Tsien.

ANSWER: **Japan** [or **Nippon-koku**; or **Nihon-koku**]

[10] Tomoko Ohta's nearly neutral theory, like her mentor Kimura's theory, opposes the idea that this process is the main mechanism of evolution. Darwin contrasted it with an artificial, human type, and it is the "Means" by which the *Origin of Species* occurs according to the full title of his magnum opus.

ANSWER: **natural selection**

[10] Ohta believes her nearly neutral theory fell out of favor in the 90s due to the advent of this technology. Sanger names one method for this task, which is more commonly done with Craig Venter's "shotgun" method.

ANSWER: **DNA sequencing** [or clear equivalents] <CS; Biology>

6. For a particle in perfectly circular motion, this quantity equals the product of mass, velocity, and radius. For 10 points each:

[10] Name this quantity which is defined as the product of moment of inertia and angular velocity, or the cross product of its linear analogue and a position vector. Its linear analogue equals mass times velocity.

ANSWER: **angular momentum** [do NOT accept or prompt on "(linear) momentum"]

[10] Emmy Noether's first theorem has important applications with regards to angular momentum calculations as it states that for any system with some sort of differential symmetry, some variable in the system must have this property.

ANSWER: It is **time-invariant** [accept anything about a variable **not changing** with **time** OR being **conserved** with respect to **time**; accept having a **conservation law**; accept having a **time derivative** equal to **zero**]

[10] The standard technical definition of Noether's theorem concerns differentiable symmetries of this quantity of a system, which equals the integral of energy with respect to time. In classical mechanics, a particle will take the path which minimizes this quantity according to the principle of least [this quantity].

ANSWER: **action** [accept principle of least **action**] <CS>

7. This woman's destruction of an enemy ship is said to have inspired the quote "My men have become women, and my women, men". For 10 points each,

[10] Name this naval commander from Halicarnassus who allied with Xerxes at the Battle of Salamis.

ANSWER: **Artemisia** I of Caria

[10] The Battle of Salamis was fought between these ships, which were known for their ramming ability.

Artemisia's fleet of them was crippled by a storm and the greater maneuverability of their Greek counterparts.

ANSWER: **triremes**

[10] Artemisia allied with this empire at Salamis, which fought the Greeks in a series of namesake wars.

ANSWER: **Persian** Empire <KK; Ancient and British History>

8. In a novel by this author, Trefry unintentionally helps reunite two lovers under the new names of Caesar and Clemene. For ten points each:

[10] Name this British author of a novel where the title African prince kills his lover Imoinda while enslaved in Suriname, *Oroonoko*.

ANSWER: Aphra **Behn**

[10] This other author created Tony Last, who also journeys to South America, but he is forced to stay there as the prisoner of the illiterate Mr. Todd in the Amazon rainforest in the novel *A Handful of Dust*.

ANSWER: Evelyn **Waugh**

[10] *A Handful of Dust* began as a short story Waugh wrote, which he originally titled "The Man Who Liked" this author. As Mr. Todd's prisoner, Tony is forced to read the works of this author of *A Tale of Two Cities* to him.

ANSWER: Charles **Dickens** <CM; British Literature>

9. This president presided over the Financial Panic of 1873. For 10 points each,

[10] Name this president who succeeded Andrew Johnson and served as commander of the Union Army during the Civil War. The last of the Reconstruction Amendments was passed during his presidency.

ANSWER: Ulysses S. **Grant** (accept Hiram Ulysses **Grant**)

[10] This conspiracy in the scandal-ridden Grant administration bribed government officials so that manufacturers of its namesake product could avoid taxes. Grant's private secretary Orville Babcock was implicated in this scandal.

ANSWER: **Whiskey Ring**

[10] Another scandal in the Grant administration was organized by this Congressman, who bribed officials with discounted Credit Mobilier stock. One of this man's beneficiaries was Schuyler Colfax, Grant's vice president.

ANSWER: Oakes **Ames** <KK; American History>

10. LGBT representation on television still leaves much to be desired. For 10 points each, answer the following questions about lesbian couples on TV who are no longer together.

[10] The characters Callie and Arizona, played by Sara Ramirez and Jessica Capshaw, were formerly in a relationship on this medical drama which recently celebrated its 300th episode.

ANSWER: **Grey's Anatomy**

[10] On The CW's Supergirl, DEO Agent Alex Danvers broke off her engagement to this character. This NYPD cop shares her surname with the protagonist of a Mark Twain novel.

ANSWER: **Maggie Sawyer** [accept either underlined name]

[10] Fans were furious when character of Commander Lexa on The 100 was killed after she consummated her relationship with Clarke. Her death is referred to by this prevalent media trope.

ANSWER: **Bury Your Gays** trope [prompt on "Dead Lesbian Syndrome"] <KE; Popular Culture>

11. Albert Cleage wrote a book about the *Messiah* with this quality, and founded the Shrine of the [this] Madonna Church. For 10 points each:

[10] Name this phenotype which describes a theology spearheaded by James Cone, whose *The Cross and the Lynching Tree* elaborates on his view that Jesus should be viewed as having this skin color.

ANSWER: **black** skin [or equivalents]

[10] James Cone's "black theology" is viewed as an offshoot of this blend of Christianity and Marxist thought promoted by Latin American thinkers like Gustavo Gutierrez. It seeks to improve the condition of the poor and oppressed.

ANSWER: **liberation** theology

[10] Chapter 3, verse 28 of this Pauline epistle is a favorite of left-leaning theologians, since it declares: "There is neither Jew nor Greek, there is neither bond nor free, there is neither male nor female: for ye are all one in Christ Jesus." It also enumerates the works of the flesh and the fruit of the Spirit.

ANSWER: Epistle to the **Galatians** [or Letter to the **Galatians**] <CS; Religion and Mythology>

12. Sune Lindqvist discovered postholes from this building in 1926. For 10 points each:

[10] Identify this building described in Snorri's *Ynglinga saga*. Adam of Bremen reported that up to seventy-two bodies were hung at this Swedish building, where three gods including Wodan and Thor sat on a triple throne.

ANSWER: The **Temple at Uppsala** [or the **Temple at Gamla Uppsala**; or the **Temple at Old Uppsala**]

[10] An ithyphallic depiction of this god was also present on the triple throne at the Temple at Uppsala. Like his twin sister, he was a god of fertility.

ANSWER: **Frey** [or **Freyr**; do not accept **Freyja** or **Freya**]

[10] An evergreen at the site of the Temple of Uppsala likely represented this Norse World-Tree.

ANSWER: **Yggdrasil** <CS; Religion and Mythology>

13. In this play, Estrella becomes displeased with Astolfo for wearing a locket with another woman's portrait on his neck. For ten points each:

[10] Name this Calderon play in which a prophecy leads King Basilio to imprison his son Segismundo in a tower.

ANSWER: ***Life Is a Dream***

[10] This playwright wrote about Agnes, the daughter of Indra, descending to Earth in *A Dream Play*. He also wrote about Hummel helping Arkenholz become disillusioned with a Stockholm family in *The Ghost Sonata*.

ANSWER: August **Strindberg**

[10] Strindberg authored this play where the title character recalls her dream of being unable to get down from a pillar to the valet Jean, who eventually convinces her to commit suicide with a razor.

ANSWER: ***Miss Julie*** <CM; European Literature>

14. This book suggests that the reader should discard its propositions once she understands them, as one throws a ladder aside after climbing it. For 10 points each:

[10] Name this book organized into numbered propositions. Its fourth section introduced truth tables, and its first opens "The world is everything that is the case."

ANSWER: **Tractatus Logico-Philosophicus** [prompt on "Tractatus"; accept, but do not otherwise reveal

Wittgenstein's Tractatus]

[10] The *Tractatus* was written by this Austrian student of Russell and Moore, who later changed his mind from the "picture theory" of language to a theory based on "family resemblances" in his *Philosophical Investigations*.

ANSWER: Ludwig **Wittgenstein**

[10] The *Tractatus*' proposition 5.1 claims that the arrangement of truth functions in series is the foundation of the theory of this subject. Three of the major schools regarding this subject are frequentism, propensity theory, and a "subjective" school which follows Thomas Bayes by defining it in terms of a "degree of belief" or "credence."

ANSWER: **probability** [do not accept "statistics"] <CS; Philosophy>

15. A ruler of this country may have caused Rene Descartes's death by forcing him to march to her frigid castle at 5:00 AM daily. For ten points each,

[10] Name this Nordic country once ruled by Queen Christina from Stockholm. After the Thirty Years' War, this country was granted the territory of Pomerania.

ANSWER: **Sweden**

[10] Sweden belonged to this trade alliance designed to counter the Hanseatic League. The founder of this alliance, Queen Margaret, ruled both Sweden and Denmark and was known as the "Lady King".

ANSWER: **Kalmar Union**

[10] Since she had no desire to marry, Queen Christina abdicated the Swedish throne and performed this action. Prior to performing this action, Christina practiced her father Gustavus Adolphus' Lutheran faith.

ANSWER: **converting to Catholicism** (accept equivalents, prompt on "converting to Christianity") <KK; European History>

16. The cumene process produces this compound alongside phenol. For 10 points each:

[10] Name this compound, the most common solvent for the Jones oxidation. It is used to clean lab glassware, and commercially as nail polish remover.

ANSWER: **acetone**

[10] Acetone is the simplest ketone. Ketones, which consist of a carbonyl in the middle of a chain, are easily confused with this functional group consisting of a carbonyl at the end of a carbon chain.

ANSWER: **aldehydes**

[10] With the exception of alpha-hydroxy ketones, ketones can be distinguished from aldehydes by the Tollens' reagent, which typically creates one of these distinctive objects in a reaction vessel.

ANSWER: **silver mirror** [prompt on partial] <CS; Chemistry>

17. One resident of this city, Kirsha, is a seller and user of hashish who desires young boys and owns a café. For ten points each:

[10] Name this city which is home to three generations of the al-Jawad family, which includes Kamal, Yasin, Fahmy, and the patriarch, Sayyid Ahmad.

ANSWER: **Cairo**

[10] The *Cairo Trilogy* is written by this Egyptian author, who also wrote about Said Mahran's attempts to kill the journalist who put him in prison in *The Thief and the Dogs*.

ANSWER: Naguib **Mahfouz**

[10] This other Egyptian city is the namesake of a "quartet" by Lawrence Durrell, in which the exiled schoolteacher L.G. Darley observes the impact of World War II on the world around him.

ANSWER: **Alexandria** [accept *Alexandria Quartet*] <CM; Ancient and World Literature>

18. This polity defeated the Kingdom of Mysore at the Siege of Seringapatam. For ten points each,

[10] Name this trading conglomerate that often feuded with its Dutch counterpart. After the Battle of Plassey, this company found itself in control of much of its namesake country.

ANSWER: **British East India Company** (prompt on partial)

[10] This British statesman got his start as a clerk for the British East India company. After serving as Governor-General of Bencoolen, this leader founded the modern state of Singapore.

ANSWER: Sir Stamford **Raffles**

[10] One of Raffles' most famous roles was his involvement in the conquest of this Indonesian island, which had previously been held by the Dutch East India Company. The colonial capital of Batavia was located on this island.

ANSWER: **Java** <KK; World History>

19. *Composer and piece required.* This piece's first movement opens *Andante non troppo e molto maestoso* with a descending fortissimo "triplet-dotted quarter" pattern played twice in the horns, before a smooth tenuto piano solo. For 10 points each:

[10] Name this concerto originally written for Nikolai Rubinstein, who called it "unplayable" and got into a feud with the composer; Hans von Bulow played the solo part at the Boston premiere instead.

ANSWER: **Tchaikovsky's Piano Concerto No. 1** [or **Tchaikovsky's first piano concerto**; both composer and piece are required, so prompt on partial]

[10] Tchaikovsky's is probably best known for the 1812 Overture, which uses this unusual instrument in its finale. It is used more often as an engine of war.

ANSWER: **Cannon**

[10] Tchaikovsky wrote a C major piece in this genre for string orchestra, and another "melancolique" one. Mozart's *Eine Kleine Nachtmusik* is another piece in this genre, which is usually translated as either "a little night music" or "a little [this genre]."

ANSWER: **Serenade** <CS; Fine Arts Auditory>

20. William Boyd created an art hoax centered around an abstract expressionist with this surname who destroyed 99% of his work. For 10 points each:

[10] Give this name of the institution which awards the Turner Prize. Chinese artist Ai Weiwei filled the Turbine Hall of its Modern branch with sunflower seeds.

ANSWER: **Tate** [accept Nat **Tate**; accept **Tate** Museum or **Tate** Modern] (The Ai Weiwei work is called *Sunflower Seeds*)

[10] Ai Weiwei destroyed an artwork in this medium from the Han dynasty for a photo series and painted the Coca-Cola logo over another. The Ming dynasty traded a number of artworks in this medium for European goods.

ANSWER: **pottery** [or **porcelain**; accept *Dropping a Han Dynasty **Urn*** or *Coca Cola **Vase***]

[10] This Chinese aesthetic principle with a mystical background seeks to harmonize everything with the natural surroundings. Its practitioners are divided into Form and Compass schools, and its name means "wind-water."

ANSWER: **feng shui** ["fung shway"] <CS; Fine Arts Visual>