

2016 MYSTERIUM: “I quiz all sounds, all thoughts, all everything”

Packet 7 – goossens

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Tossups

1. A principle of this name in denotational semantics lets phrases depend on subphrases for meaning. In OOP, this term and aggregation refer to complex types that use *has-a*. One design pattern favors that term over inheritance. An operation of this name makes more primitive recursive functions from 3 initial axioms: zero, successor, and projection. Concatenative languages like Forth use juxtaposition and Haskell uses a period to indicate an operation of this name, which is path-independent in (*) commutative diagrams. Functions defined using this operation are tacit, or point-free, if no arguments are involved, only other functions. Factoring a function into a pipeline of smaller ones uses this operation. This operation takes two functions of type $a \rightarrow$ (“arrow”) b and $b \rightarrow c$ to give a function of type $a \rightarrow c$. The chain rule gives its derivative. For 10 points, what operation, denoted $g \circ f$, applies the function g to result of f ?

ANSWER: composition [accept object composition or function composition; accept compose, composite, compositionality, or other word forms; accept compound type; accept function decomposition]

<OL Other Science>

2. A painting of this scene includes a cutaway in the floor for a glass vase filled with water, is located in the Martelli Chapel, and was made by Filippo Lippi. In *Painting and Experience*, Michael Baxandall analyzed depictions of this scene in terms of five “conditions” including *conturbatio* and *meritatio*. A depiction of this scene decorates the north hallway in San Marco, which is the first thing you see when you walk up the stairs. A gilt sculpture of this scene was Donatello’s most famous contribution to Santa Croce. This is the main scene of the closed view of the (*) Ghent Altarpiece. This scene is often depicted in an “enclosed garden” by a colonnade. The female figure in this scene often says “Ecce ancilla domini.” The left-hand figure in this scene often holds a white lily. Fra Angelico is best-known for his depictions of this scene. This scene is chronologically followed by the nativity. For 10 points, name this scene in which Gabriel tells Mary that she will become the mother of Jesus.

ANSWER: the Annunciation

<JR Visual Arts>

3. A new variety of cement was used to construct one of these places by Herod the Great, who named the adjacent town Caesarea in honor of Augustus. A town at one of these places had its streets laid out in a grid format by Hippodamus of Miletus. Pliny the Elder relates how Claudius battled a certain large animal during his renovations of one of these places, to which Trajan made a hexagonal addition. Two (*) moles were located at that one of these places fifteen miles from Rome in Ostia. The Long Walls ended at one of these places at Piraeus, and vehicles such as quinqueremes and triremes travelled between them. For 10 points, the Lighthouse of Alexandria overlooked what sort of place where ships can dock?

ANSWER: ports [or harbors]

<JB European/Ancient History>

4. This entity was theorized in terms of “openness” and “second nature” in a 1994 book by John McDowell. An argument for the “closure” of this entity was deemed “new mysterianism.” In the 1980s and 90s, this entity was explained using supervenience relations by Jaegwon Kim. A group of primitive people are taught how to discuss this entity in the Myth of Jones. The study of this entity is often oversimplistically opposed to philosophical (*) behaviorism. Processes of this entity are identical with physical processes, but not in any easily describable way, according to Donald Davidson’s anomalous monism. This idea was termed a “category mistake” in a book that mocked one form of it as “the ghost in the machine,” Gilbert Ryle’s *The Concept of [This]*. This entity’s ability to be “directed” is called “intentionality.” For 10 points, name this construct that dualists hold to be separate from the body.

ANSWER: the mind [prompt on closely related answers like “consciousness” or “thoughts”]

<JR Philosophy>

5. For the chemical analysis of objects and powders under obscuring substances, the spatially-offset form of this method is used. In another variant of this method, incident laser frequency is tuned to be close in energy to an electronic transition, allowing the study of compounds at low concentrations; that is the resonant form of this technique. Normal modes in centrosymmetric molecules cannot be active in both this technique and absorption spectroscopy. In this method, we look for modes that transform with the same symmetry as (*) quadratic forms, and are thus accompanied by a change in polarizability. This spectroscopic method relies on photons’ frequencies being changed upon collision with matter; that shift corresponds to a change in a molecule’s rotational or vibrational energy level. For 10 points, name this form of spectroscopy where we probe molecules by looking for Stokes and anti-Stokes shifts, named for an Indian scientist.

ANSWER: Raman spectroscopy

<SP Chemistry>

6. A play by this author ends with a woman’s speech about looking at her roommate’s dead body, then covering the face of a man with dirt from a flower box. In a play by this author, a character taunts another for being upstairs with a woman for two hours without going “whole hog” and is enraged when his cheese roll is eaten. In that play’s last scene, a chauffeur reveals Jessie’s affair before collapsing. One of his plays opens with a woman serving cornflakes and ends with her (*) saying “I was the belle of the ball.” Teddy brings his wife Ruth to his father’s house in a play by this author. One of his plays climaxes with a game of Blind Man’s Bluff, after which two men take Stanley away from Meg’s boarding house. For 10 points, name this British playwright who wrote *Old Times*, *The Homecoming*, and *The Birthday Party*.

ANSWER: Harold Pinter

<JB British Literature>

7. Bilateral netting reduces a variety of this quantity associated with counterparties. This quantity gives rise to two-moment, or “mean-variance” modelling. One form of this quantity is plotted on the x-axis to produce the market line in the capital asset pricing model; that form of it is symbolized “beta.” Many investors purchase index funds thinking that they have lower values for this quantity than single stocks. Nonzero values for this quantity caused a discrepancy between actual and expected (*) utility in the St. Petersburg paradox formulated by Nicolas Bernoulli. The Arrow–Pratt model quantifies how much people try to avoid it. Over-linked markets give rise to the “systemic” type of it through contagion. This quantity is reduced via “spreading,” for instance by diversifying one’s investments. For 10 points, name this chance of losing money.

ANSWER: risk [accept uncertainty; accept volatility; prompt on “beta” until that’s mentioned]

<JR Economics/Psychology>

8. **Tajlu Khanum, the wife of a ruler from this dynasty, was found wandering blindly by Mirza Shah Husayn, who was rewarded by being promoted to vizier. That ruler of this dynasty, a grandson of Despina Khatun, the princess of Trebizond, ordered a rival's skull to be made into a jeweled drinking goblet after Muhammad Shaybani was killed in the Battle of Merv. Another ruler from this dynasty received a pair of military advisors, the (*) Sherley brothers, and created a standing army to impose his authority over red-cap-wearing Qizilbash tribesmen. Selim the Grim defeated this dynasty at Chaldiran. This dynasty's capital was moved to Isfahan by Abbas the Great. For 10 points, Isma'il I founded what Iranian dynasty that promoted Shi'a Islam?**

ANSWER: **Safavid** dynasty

<WC World History>

9. **This style was prefigured by the neo-Byzantine Nebraska State Capitol, which was imitated by the State Capitol of Louisiana and the Los Angeles Public Library. Near the end of his career, Henri Sauvage designed the department store La Samaritaine in this style. The tallest brick building in the world is in this style, and is topped by seven terraced "arches" of stainless steel with a triangular (*) sunburst pattern; that was designed by William Van Alen. This style has "Zigzag" and "Streamlined" Moderne substyles. A building in this style includes a spire originally intended for dirigibles, and was designed by Shreve, Lamb & Harmon. Another building in this style was the tallest in the world for 11 months, before being topped by another Manhattan skyscraper in this style. For 10 points, name this hit style of the 1920s and 1930s, exemplified by the Chrysler Building and Empire State Building.**

ANSWER: **Art Deco** [prompt on "Style Moderne"]

<JR Other Arts>

10. **This scientist used his knowledge of Greek to suggest the name of the meson to Hideki Yukawa to replace the etymologically suspect "mesotron." This man names a quantum mechanical generalization of the Ising model that uses Pauli matrices to describe interacting spins. He also names an approach in which observables evolve in time and state kets are fixed, called his namesake (*) "picture" of quantum mechanics. A generalization of his most famous statement relates the variances of two observables to the square of the expected value of their commutator. This man invented a system of non-commuting observables that accurately predicted the spectral lines of hydrogen and came out one year before Schrodinger's equivalent wavefunction formalism. For 10 points, name this German physicist who invented matrix mechanics and an uncertainty principle.**

ANSWER: Werner **Heisenberg**

<SE Physics>

11. **In one of this author's novels, a daughter of a central character compares everyone to a monkey from an illustrated book, and has everyone act out a *tableau vivant* by dressing up as their favorite painting. In one of his plays, the title character makes a bet that he will not tell the passing moment "tarry awhile, thou art so fair!" That play by this author includes a prologue in the theater and a prologue in Heaven. In a novel, he has the couple Eduard and (*) Charlotte fall in love with the Captain and Otilie, in a kind of double-displacement reaction. One of his title characters participates in a Walpurgis Night celebration and has a child with Helen of Troy. The title character of a two-part play by this author of *Elective Affinities* falls in love with Gretchen after making a bet with Mephistopheles. For 10 points, name this German author of *Faust*.**

ANSWER: Johann Wolfgang von **Goethe**

<JR European Literature>

12. In this book, the servant Zoram goes into the wilderness after his drunken master Laban is killed for his brass record, which identifies another individual as a descendent of Joseph. That individual later has a vision of a path leading to a tree that runs alongside a rod of iron. While wandering the wilderness near the Red Sea, some people in this book discover a (*) “round ball of curious workmanship.” Two “seer stones” supposedly used to decipher this book were named Urim and Thummim. During a voyage in this book, the compass Liahona ceases to function after Lehi’s sons Lemuel and Laman bind their younger brother Nephi. For 10 points, name this religious text that was originally written in “Reformed Egyptian,” which was discovered on golden plates by Joseph Smith.

ANSWER: Book of Mormon [accept First Book of Nephi since all of the book-specific clues come from it]
<WC Religion>

13. This industry was at the center of the “transformation” described in *Ramus, Method, and the Decay of Dialogue* by Walter Ong. This industry was the subject of *Divine Art, Infernal Machine* by recently-deceased historian Elizabeth Eisenstein. A group of workers in this industry on the rue Saint-Séverin (“san save-RAN”) held a trial and mass hanging in what Robert Darnton dubbed *The Great Cat Massacre*. Early products of this industry were produced by people like Aldus Manutius and are called (*) incunabula. Early on, this industry was centered on Mainz (“mines”), where a “42-line” product was made. A book about this industry popularized the phrase “global village.” This industry has usually been credited with the impact of Martin Luther’s 95 Theses. For 10 points, name this technology whose impact Marshall McLuhan analyzed in *The Gutenberg Galaxy*.

ANSWER: printing [accept more specific answers like making books, or manufacture of printed material]
<JR European/British History>

14. *Description acceptable.* A man runs onto one of these objects while pursuing a phantom created by his goddess mother to trick him into leaving a battle. These objects are immortal because they are made from material sacred to Cybele and thus transform into dolphin-like nymphs when attacked. Since one life is the price of safe passage, the “God of Sleep” causes (*) Palinurus to fall off one of these objects. A contest for these objects, which Gias wins with the *Chimera*, occurs during the funeral games of Anchises. In Sicily, Juno sends Iris to exhort the women to burn these objects. This group of vehicles brings a hero to a land where he battles the Rutulian leader Turnus and marries Lavinia, a Latin princess. For 10 points, identify this group of vehicles that stops in Dido’s Carthage while fleeing Troy and is led by the title character of a Virgil poem.

ANSWER: ships of Aeneas [prompt with “whose?” on answers like “ship” or “boat”; accept obvious equivalents for “ships” such as boats; anti-prompt on parts on ships such as “helms”]
<JB Other Literature>

15. In *Neurospora crassa*, Ronald Breaker’s lab discovered a riboswitch in the intron of the gene NMT1 that binds a derivative of this compound, preventing mRNA transcription. The cofactor derived from this compound forms an alpha-hydroxyalkyl intermediate in its mechanism, which subsequently forms another intermediate where that cofactor is double-bonded to its substrate. This compound contains an active 5-membered nitrogen- and sulfur-containing ring that has carbenoid properties and can be used as a catalyst in the benzoin condensation. That cofactor is necessary for (*) transketolase and the first step of the pyruvate dehydrogenase complex, and is formed by attaching pyrophosphate to this compound. Along with folic acid, this vitamin is found in banana bags that are used to treat chronic alcoholics. This vitamin’s deficiency leads to a Wernicke’s encephalopathy named for Korsakoff. For 10 points, name this vitamin whose deficiency also causes beri-beri.

ANSWER: thiamine [accept vitamin B1]
<SP Biology>

16. In 1811, Tecumseh delivered an hour-long speech at this tribe's town of Tuckabatchee. This tribe created a police force called the "law menders." A leader of this tribe once lost the battle of Chustenahlah. This tribe once headed by Opothleyahola lost all their landholdings east of the Mississippi in the 1832 Treaty of Cusseta. This tribe's members did *not* include Elias Boudinot, but one of its leaders was assassinated by Menawa for signing the Treaty of Indian Springs. One faction of this tribe fought the US government in a war that featured the Battle of (*) Burnt Corn and ended at the Treaty of Fort Jackson. This tribe is closely related to the Seminoles. For 10 points, name this tribe originally from Alabama and Georgia, whose Red Stick faction lost to Andrew Jackson at the Battle of Horseshoe Bend.

ANSWER: Creek [or Muscogee]

<LL American History>

17. This instrument plays a rhythmic motive to begin Stravinsky's *Agon*. Merri Franquin ("fran-CAN") commissioned George Enescu's *Légende* ("lay-JOND") for this instrument and piano. Solos for this instrument open Shostakovich's first symphony, the *Lieutenant Kijé* suite, and the fourth movement of Dvořák's 8th symphony. Maurice André, Timofei Dokshitzer, and Alison Balsom have played an A-flat concerto for it by Arutiunian. A theme Tchaikovsky heard daily in Rome inspired the opening duet of these instruments in (*) *Capriccio Italien*. The inventor of a chromatic version of this instrument commissioned an E-major concerto for it by Hummel and an E-flat major one by Haydn. This instrument "poses" Ives's *Unanswered Question*, opens Mahler 5, and names a *Voluntary* by Jeremiah Clarke. For 10 points, name this brass instrument with three valves.

ANSWER: trumpet

<OL Auditory Arts>

18. In this novel, a French tutor whom the protagonist fails to recognize on a trip to Boston is revealed to be the secretary who had earlier helped a female character. A scene from *The Shaughraun* in which a man silently kisses his lover's ribbon occurs to the protagonist of this novel when he sees a woman on a pier but does not greet her. In this novel, the van der Luydens are offended that a woman visits the house of Lucius Beaufort after he is caught in a banking scandal. In this novel's (*) last chapter, the protagonist is with his son Dallas in Paris twenty-six years later and watches the light in his love interest's room without going inside. The protagonist of this novel marries May Welland but loves Countess Ellen Olenska. For 10 points, name this novel about Newland Archer by Edith Wharton.

ANSWER: *The Age of Innocence*

<JB American Literature>

19. This protection was extended in the 1884 case *Burrow-Giles v. Sarony*. This protection was ruled not to come from "sweat of the brow" in *Feist Publications v. Rural Telephone Service*. An act extending this protection was pushed for by and named after Sonny Bono. This protection was originated in a clause from Article 1, Section 8 of the Constitution that begins "To promote the Progress of Science and useful Arts." This protection was extended in an implementation of WIPO, the (*) DMCA. All computer programs can use menu hierarchies like "File-Quit" because the makers of Lotus 1-2-3 lost a 1995 case over this protection. Since a 1976 act, this protection lasts for 95 years except for works predating 1923. This protection can be abridged for educational purposes or "fair use." It hinges on the "idea-expression dichotomy." For 10 points, name this protection at issue in *A&M Records v. Napster*.

ANSWER: copyright [prompt on "intellectual property" or "IP"]

<JR Social Science/Thought>

20. In this myth system, a trio of goddesses create weather by rubbing rocks together and urinating. This myth system explains that white people come from dog children who were put in a boat made from their human mother's shoe sole. This myth system describes living doll monsters which are suckled on the sexual organs of their creators after being made of flesh and bone. In this system's underworld, bad people go to a house where they are pinched mercilessly by Anguta. In a myth of these people, a (*) girl marries a disguised sea bird, and her fingers later become sea animals when her father cuts them off to force her off their boat. The underworld of these people, Adlivun, is home to that sea goddess, Sedna. For 10 points, name these indigenous people of the Arctic once known by the Algonquian word "Eskimo."

ANSWER: **Inuit** mythology [or **Eskimo** mythology until "Eskimo" is read]

<JB Mythology/Other>

Bonuses

1. In one of this man's films, the protagonist, Ethan Edwards, tries to shoot his daughter when she says she wants to join her kidnappers. For 10 points each:

[10] Name this director of *The Searchers*.

ANSWER: John **Ford**

[10] John Ford's *The Searchers* and *Stagecoach* are classics of *this* American film genre, starring John Wayne.

ANSWER: **Westerns**

[10] *The Searchers* begins and ends with silhouetted shots of people walking away from *this* kind of structure, which is also a major motif in *Stagecoach*.

ANSWER: **doorways** [accept clear equivalents; prompt on answers like "thresholds" or "entrances"]

<JR Other Arts>

2. Margaret Thatcher proposed that identity cards be required to watch this sport after British fans pushed Italian fans against a collapsing wall in Heysel Stadium. For 10 points each:

[10] Name this sport that was the subject of the Taylor Report after the Hillsborough disaster, which occurred during a match between Liverpool and Nottingham Forest.

ANSWER: **football** [or **soccer**]

[10] This prime minister's government called for more school participation in sports such as football in the report *Raising the Game*. The Treaty of Maastricht was ratified during the tenure of this PM who defeated Neil Kinnock.

ANSWER: John **Major**

[10] The overseas competition of Britain's football teams was somewhat limited by the Gleneagles Agreement, a Commonwealth measure targeting this policy. This policy was obliquely criticized in Macmillan's "Wind of Change" speech.

ANSWER: **apartheid**

<JB European/British History>

3. Answer some questions about evolutionary dynamics. For 10 points each:

[10] Name this system of differential equations describing the rate of change of frequencies of different alleles in a population as a function of their current frequencies and fitness value. The effects of mutation are not considered in this model, and it is defined on a simplex.

ANSWER: **replicator** equation(s)

[10] The replicator equation is a generalization of the Lotka–Volterra equations, which describes the interaction of these two general types of organisms, one of which eats the other.

ANSWER: **predator** AND **prey** [accept in either order]

[10] This idea in evolutionary theory states that an organism will decrease its own fitness to increase the fitness of a lot of closely related organisms. It has recently been disputed by Martin Nowak and E.O. Wilson.

ANSWER: **kin selection**

<SP Biology>

4. Answer the following about *The Argonautica* by Apollonius of Rhodes. For 10 points each:

[10] The Argonautica follows this hero on his quest to retrieve the Golden Fleece from Colchis, where he meets the sorceress Medea

ANSWER: **Jason**

[10] On the way to Colchis, Jason and the Argonauts avoid destruction by the Symplegades, two of these objects, after watching a dove only lose its tail feathers to them.

ANSWER: clashing **rocks** [or **cliffs**; or obvious equivalents]

[10] When the Argonauts reach the land of the Bebrycians, their king Amycus demands to face one of them in this sort of contest, during which he is promptly killed.

ANSWER: a **boxing** match [prompt on “fighting” or similar answers]

<JB Other Literature>

5. Unusually for its time, this book takes an explicitly Marxist approach in analyzing why poor blacks and whites did not unite against former slaveowners. For 10 points each:

[10] Name this 1935 book, the first major critique of the Dunning school.

ANSWER: ***Black Reconstruction*** in America: *An Essay Toward a History of the Part Which Black Folk Played in the Attempt to Reconstruct Democracy in America, 1860–1880*

[10] *Black Reconstruction in America* was written by this American historian and sociologist, who also coined the term “double consciousness” and edited the journal *The Crisis*.

ANSWER: W.E.B. **Du Bois** [William Edward Burghardt Du Bois]

[10] The racist and revisionist histories Du Bois attacked in *Black Reconstruction* were exemplified by *this* author’s book *Division and Reunion*. This president led the United States through World War I.

ANSWER: (Thomas) Woodrow **Wilson**

<JR American History>

6. Several compositions designated Opus 27 No. 2 were inspired by similar phenomena. Answer some questions about them, for 10 points each.

[10] A nighttime phenomenon on Lake Lucerne inspired the nickname of *this* C-sharp-minor Beethoven piano sonata, which is marked *Quasi una fantasia*.

ANSWER: ***Moonlight*** Sonata [or Piano Sonata No. **14**]

[10] James Huneker related both pieces of Chopin’s Opus 27 to the *Moonlight Sonata*. Both of those pieces, which begin with wide left-hand arpeggios, were in *this* genre, which was popularized by John Field.

ANSWER: **nocturnes**

[10] This composer’s Opus 27 No. 2 begins “A swan moves on the water... like a gliding tableau,” and is from his song cycle *Mélodies passagères* (“may-loh-DEE pa-sa-ZHAIR”). His piano music includes *Nocturne (Homage to John Field)* and *Excursions*.

ANSWER: Samuel (Osborne) **Barber** (II)

<OL Auditory Arts>

7. Answer some questions about the ongoing European migrant crisis, for 10 points each.

[10] Many of the migrants are from this Middle Eastern country, which has been embroiled in civil war since the Arab Spring. Some parties in that conflict include Bashar al-Assad's regime, Rojava, and the Islamic State.

ANSWER: Syrian Arab Republic

[10] The migrant crisis is putting a strain on *this* agreement, which resulted in the removal of permanent border controls between the members of its namesake area. Some countries have reinstated temporary border controls.

ANSWER: Schengen Agreement

[10] This European leader claimed that border controls were necessary to "keep Europe Christian." A noted proponent of building an "illiberal state," he ordered the construction of a fence along the Serbian border.

ANSWER: Viktor Orbán [accept names in either order]

<WC Mythology/Other>

8. This author mixed Medieval history with criticism of his present-day in *Past and Present*. For 10 points each:

[10] Name this first English translator of Goethe's *Wilhelm Meister*.

ANSWER: Thomas Carlyle

[10] Carlyle's *The French Revolution: A History* has been compared to a novel for its use of *this* narrative style. Dickens used this narrative voice for *Great Expectations* and the semi-autobiographical *David Copperfield*.

ANSWER: first-person narrative [accept first-person singular or first-person plural]

[10] Carlyle's *Sartor Resartus* consists of a long review about the "Origin and Influence" of *these* items. An attribute of two kinds of these items also titles an 1830 novel about Julien Sorel. Description acceptable.

ANSWER: clothes [accept any rough equivalents, including uniforms, vestements, etc.]

<JR British Literature>

9. For a comoving surface within a fluid, this quantity is "frozen in," and hence held fixed, according to Alfvén's ("all-VANE's") theorem. For 10 points each:

[10] Name this quantity measured in webers. In introductory physics problems, this quantity is often varied by changing the geometry of a problem by moving a conducting bar or rotating a loop of wire.

ANSWER: magnetic flux [prompt on "flux"; do not accept "magnetic field"]

[10] A changing magnetic flux creates an electromotive force around a circuit according to Faraday's law of this process. A circuit element that uses this phenomenon usually consists of a coil of wire around a ferrite core.

ANSWER: electromagnetic induction [accept inductor]

[10] The flux through a closed surface could only be nonzero if that surface enclosed a magnetic monopole, such as the "dyon" proposed by this American physicist. He also names a variational approach to QFT and is the second namesake of a perturbative equation for a scattered wavefunction.

ANSWER: Julian Schwinger

<SE Physics>

10. After being called a “king without breeches” and sent a hone with which to sharpen her knitting needles, this queen defeated and captured Albert of Mecklenburg. For 10 points each:

[10] Give this name of the queen regnant of Denmark who orchestrated the union of Denmark, Sweden, and Norway through the Kalmar Union under her grand-nephew Eric of Pomerania.

ANSWER: **Margaret** I of Denmark

[10] After Albert reneged on his ransom payments, this organization was forced to give up Stockholm. This league of merchant towns and guilds dominated Baltic trade in the fifteenth and sixteenth centuries.

ANSWER: the **Hansa** [or **Hanseatic** League]

[10] Franklin Scott’s “A Saint and a Queen” discusses Margaret and this Swedish saint, who created the “Fifteen O’s” prayer and a namesake order open to men and women.

ANSWER: **Bridget** of Sweden

<JB European/Ancient History>

11. For many of his abstract paintings, this man selected colors at random for placement in “color chart”-like compositions. For 10 points each:

[10] Name this contemporary artist best-known for his slightly blurred “photo-paintings.”

ANSWER: Gerhard **Richter**

[10] Richter also designed a “pixelated” window for the cathedral in *this* city, which is the largest Gothic Church in northern Europe, and was only finished in 1880.

ANSWER: **Cologne** [or **Köln**]

[10] The cover of Sonic Youth’s *Daydream Nation* is a Richter painting symbolizing *this* event with a candle that will eventually burn out. *Vanitas* paintings usually symbolize it with a skull.

ANSWER: **death**

<JR Visual Arts>

12. Answer the following about the appearances of Russian composers in American poetry, for 10 points each.

[10] This poet of “Three Oranges” described how Borodin’s wife “used his compositions to line the cat boxes.” Several of this poet’s semi-autobiographical novels follow Henry Chinaski.

ANSWER: Charles **Bukowski**

[10] A man with a red hat, a polar bear, and a window appear in this poet’s “Glazunoviana.” The other works of this New York School poet include “Self-portrait in a Convex Mirror.”

ANSWER: John (Lawrence) **Ashbery**

[10] Amy, a poet with this surname, included immortal lines like “Bump! Bump! Tong-ti-bump!” in a poem describing three Stravinsky pieces. Other poets with this surname include the author of “For the Union Dead,” Robert, and the fireside poet who wrote *A Fable for Critics*.

ANSWER: **Lowell**

<JB American Literature>

13. The aqueous solution of this ion is deep purple, and it is often used as both a titrant and an indicator in redox titrations. For 10 points each:

[10] Name this ion, with charge minus 1, that contains a metal at the +7 oxidation state. Cold, dilute solutions of this ion can be used to generate vicinal-diols from alkenes.

ANSWER: **permanganate** [accept **MnO4 minus**]

[10] Permanganate's purple color is due to this type of transition, where electrons move from pi molecular orbitals to the 1e nonbonding orbital set.

ANSWER: ligand-to-metal **charge transfer** [accept **CT** complex or **LMCT** complex; do **not** accept "metal-to-ligand charge transfer" or "MLCT"]

[10] The permanganate ion has this molecular geometry, which is the same as the geometry of methane.

ANSWER: **tetrahedral**

<SP Chemistry>

14. Elizabeth Loftus has examined how "false" ones of these entities can be created. For 10 points each:

[10] Name these entities whose loss is modelled by Ebbinghaus's forgetting curve.

ANSWER: **memories**

[10] This kind of long-term memory is used whenever you do a specific action. This kind of memory is implicit, meaning that you don't have to consciously try to recall while using it.

ANSWER: **procedural** memory

[10] Donald Thomson and Endel Tulving developed *this* principle of context-dependent memory, which states that presenting seemingly extraneous information from the first stage of memory can help with recall.

ANSWER: **encoding specificity**

<JR Economics/Psychology>

15. According to legend, this city was founded at the site of the living tree of a set of two trees planted by the priest Okomfo Anokye ("aw-CALM-foh ah-NOTCH-ay"), hence its name referring to being underneath a certain type of tree. For 10 points each:

[10] Name this city, the capital of the Ashanti kingdom, which was destroyed on the orders of Garnet Wolseley in 1874 following his victory at the Battle of Ordashu.

ANSWER: **Kumasi**

[10] Okomfo Anokye called down this object from heaven into the lap of Osei Tutu. A symbol of Ashanti unity, it was also the namesake of a war waged by Queen Yaa Asantewaa ("yah-san-TWAH") against British rule.

ANSWER: **Golden Stool** [or **sika dwa** kofi]

[10] The Ashanti kingdom was primarily located in this modern-day country, which was called the Gold Coast before it achieved independence under Kwame Nkrumah.

ANSWER: **Ghana**

<WC World History>

16. Answer some questions about the Hajj, for 10 points each.

[10] The Hajj is one of *these* basic obligations of Islam, which include fasting on Ramadan, giving *zakāt*, and praying five times a day.

ANSWER: **Five Pillars** of Islam [or **arkan al-Islam**; or **arkan al-din**]

[10] On the second day of the Hajj, pilgrims must climb *this* small hill to pray and hear a sermon. During the first Hajj, Muhammad gave his Farewell Sermon here.

ANSWER: Mount **Arafat** [or Mount **‘Arafah**; accept Mount of **Mercy** or Jabal al-**Rahmah**; do **not** accept or prompt on “Mount Ararat”]

[10] In *tawāf*, pilgrims walk around the Ka‘aba *this* many times.

ANSWER: **seven**

<JR Religion>

17. In order to reach this object, the characters are led by a Lantern from Lantern-land through a vineyard planted by Bacchus. For 10 points each:

[10] Name this object that pronounces the word “drink” when Pantagruel, Friar John, and Panurge visit it to learn whether Panurge should get married.

ANSWER: the Oracle of the Holy **Bottle**

[10] The two title characters of François Rabelais’s *Gargantua and Pantagruel* most notably have this physical characteristic.

ANSWER: they’re **giants** [or anything suggesting that they are unusually **large**]

[10] The journey to the Holy Bottle takes Pantagruel and friends to the land of the Chitterlings, sausage creatures who worship a flying pig named for this event. Mikhail Bakhtin argued that Rabelais’s work embodies the uninhibited, subversive spirit of this event.

ANSWER: **Carnival** [or the **carnivalesque**; prompt on the “Feast of Fools”]

<JB European Literature>

18. Doing the Dozens is a typical form of this activity, since it involves friendly participants trading insults. For 10 points each:

[10] Name this practice, whose namesake “monkey” titles a 1988 “Theory of African-American Literary Criticism.” Recently, this trope has been used to analyze Black Twitter.

ANSWER: **signifyin(g)** [accept *The Signifying Monkey*]

[10] *The Signifying Monkey* was written by this African-American literary critic and public intellectual, who teaches at Harvard. In 2009, this man was invited to a “beer summit” after being arrested outside his own house.

ANSWER: Henry Louis **Gates, Jr.**

[10] Gates has written extensively about the broad African one of *these* populations. This term refers to a population that has been dispersed globally, and is often used to refer to non-Israeli Jews.

ANSWER: **diaspora**

<JR Social Science/Thought>

19. This philosopher claimed that humanity was about to enter the tenth and final stage of its history. For 10 points each:

[10] Name this *philosophe* who also theorized that, if voters are likely to make the wrong choice, the ideal jury would consist of one person.

ANSWER: Marquis Nicolas de **Condorcet**

[10] Condorcet's ten stages were a hugely influential presentation of *this* idea. According to this favorite idea of the Enlightenment, life just keeps getting better because of improvements in technology and thinking.

ANSWER: **progress**

[10] Condorcet, and the idea of progress in general, got wrecked in *this* 1798 essay, which claims that population grows exponentially while the food supply grows linearly.

ANSWER: An **Essay on the Principles of Population** [or just **Essay on Population**; prompt on answers like "Malthus's *Essay*"]

<JR Philosophy>

20. These representations are often used to produce the series definition of e to the x . For 10 points each:

[10] Name these fundamental objects in calculus, which can be used to approximate a function at a point using its higher-order derivatives.

ANSWER: **Taylor** series

[10] Any function that is exactly equal to its Taylor series around a point has the local version of *this* property.

Using Cauchy's ("koh-SHEE's") integral formula, you can show that every holomorphic function has this property.

ANSWER: **analytic** [accept word forms like **analyticity**; accept more specific answers like **locally analytic**]

[10] All functions of *this* kind are analytic. These are the most famous functions to satisfy the property that, if they have a global maximum, it must be on the boundary of their domain.

ANSWER: **harmonic**

<JR Other Science>