

## 2022 ARCADIA □

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**Packet 14:** I feel like this could be in contention for a subtitle slot but idk

Tossups

1. It's not a diamond, but these objects feature in paintings like *Geumgang jeondo* that pioneered the “true-view” style of Jeong Seon. A collector ate with and slept with a 1350 painting named for these objects by Huáng Gōngwàng. Fàn Kuān and Zhāng Zéduān (“jong dzuh-DWAN”) practiced a traditional Chinese painting style titled for “water” and these objects. One of these objects appears unusually red as it reflects the sunrise in the print (\*) *Fine Wind, Clear Morning*. That same one of these features appears in another work behind three boats in Sagami Bay, which are threatened by the title *Great Wave off Kanagawa*. For 10 points, name these geographical features, thirty-six views of one were created by Hokusai.

ANSWER: mountains [accept shān or san or yama; accept volcanoes; accept *Thirty-Six Views of Mount Fuji* or *Fugaku Sanjūrokkei*; accept mountain-water or shān *shuǐ*; accept *Dwelling in the Fūchūn Mountains* or *Fūchūn shānjū tú*; accept Mount Fuji or Fujisan or *Fūchūn Mountains* or *Fūchūnshān* or Mount Geumgang or Geumgangsan; prompt on Fuji; reject “geumgang”]

<AS, Visual Arts>

2. This concept precedes *artha* and *kāma* as the most important *purushārtha*. A god identified as the king of this concept was so impressed by Savitri's devotion to it that he brought her husband Satyavan back to life. After Yudhishtira refuses to leave his dog behind, the dog reveals himself to be the king of this concept, who is often equated with the god who presides over the *narakas* as the god of Death, Yama. The (\*) Bhagavad Gita opens with a description of a “field” of this concept, and Krishna convinces Arjuna to “Make thine acts thy piety” by taking up arms accordance with this concept as it applies to him as a Kshatriya (“SHAH-three-uh”). A text named for Manu discusses this concept's application to different *varnas*, or castes. This concept is often symbolized as an eight-spoked wheel. For 10 points, name this guiding concept of Hindu morality, often translated as “righteousness” or “duty.”

ANSWER: dharma [or dhmma; accept Dharmarāja; accept *Mānava-Dharma*sāstra; accept dharmachakra; prompt on righteousness or duty or merit or justice or law or morality by asking, “What is the Sanskrit term?”; prompt on Yama until read by asking, “What concept besides death is Yama considered the king of?”; prompt on death until read by asking, “What other concept does the god of death preside over?”]

<AS, Beliefs>

3. A poem about this event compares a woman's womb to “a frog in the winter,” and asks the listener “carve them into your hearts” or have their “children turn their faces from you.” After being beaten in an electrical warehouse during this event, a French girl tells the narrator to “bite your lip, little brother,” despite not speaking in his language prior. A man compares hearing a poem during this event to “the blast of a trumpet, the voice of God” while teaching (\*) “The Canto of Ulysses” to Pikolo while retrieving rations. A man chooses not to fast as an act of rebellion against God during this event in a memoir that repeatedly asks “Where is God?” and concludes that he is “hanging in the gallows.” For 10 points, Primo Levi wrote about what genocide recounted in Elie Wiesel's *Night*?

ANSWER: The Holocaust [or Shoah; accept Auschwitz; prompt on World War II or WWII] (The poem is Primo Levi's “If This is a Man,” which also titles Primo Levi's memoir.)

4. This property's strength is measured by N-parameter values derived from the Mayr-Patz equation. This property is weakened in protic solvents because a solvent cage inhibits the reaction of molecules with this property. This property's strength determines if a molecule adds 1,2 ("one-two") or 1,4 to an alpha-beta-unsaturated ketone Michael acceptor. Like softness, this kinetic property increases for elements going down the periodic table due to increased (\*) polarizability.  $S_N1$  ("S-N-1") rates are not affected by this property as the rate equation does not include species with this property. More electronegative elements are weaker with respect to basicity and this related property. For 10 points, compounds with localized negative charge have what property that allows them to attack electrophiles?

<JZ, Chemistry>

<AS, American History>

<CM, British Literature>

ANSWER: **Chechnya** [or **Chechen** Republic; or Chechen Republic of **Ichkeria**] (The first clue refers to Ibn al-Khattab.)

<VD, European History>

8. **This quantity can be calculated from the Heaviside-Feynman formula by crossing one term with the unit direction vector. The difference between this quantity on either side of an interface dotted with the normal vector of the interface equals zero. In the symmetric gauge, one half times this quantity is crossed with the radius to get the (\*) vector potential.** This quantity can be calculated by taking the line integral of an infinitesimal current element crossed with displacement, divided by the displacement magnitude cubed. This quantity is equal to the curl of its associated vector potential. One of Maxwell's equations states that the divergence of this quantity equals zero. For 10 points, name this field calculated with Biot-Savart's law, whose lines run from north to south on their namesake objects.

ANSWER: magnetic fields [accept B or H]

<JF, Physics>

9. **In a number sung after this conflict ends, a character stomps his foot to make the color of the stage lighting match the lyrics. An actor from a musical set during this conflict said it is "inspiring enough" that her character would "suffer apoplexy" knowing that he is played by a Black Caribbean woman. A 2022 revival of a Sherman Edwards musical set in this conflict stars all female, transgender, and non-binary actors, including one who sings, (\*) "Vote yes!" when asked to "Sit Down." In a number sung at this conflict's climax, two characters high-five after the lyric "Immigrants, we get the job done!" Five friends make a toast on the eve of this conflict in one musical, in which they "raise a glass to freedom." For 10 points, name this conflict, the setting of Act 1 of *Hamilton* and 1776.**

ANSWER: American Revolution [or Revolutionary War or War of American Independence; prompt on the Battle of Yorktown] (The first clue refers to King George III stomping his foot after singing "I'm so blue" in "What Comes Next?" from *Hamilton*. The character in the second clue is Joseph Hewes from 1776.)

<JE, Other Arts: Auditory>

10. **A controversial non-replicating 2004 paper by Ellen Bialystok claims that people with this quality maintain more cognitive control as they age. The "affective filter" and "natural order" hypotheses are two of five put forth in Stephen Krashen's monitor model of acquiring this quality. Carol Myers-Scotton proposed the markedness model to explain why people with this quality take a certain action. Peal and Lambert excluded "pseudo" examples of these people in favor of (\*) "balanced" ones in a study that claimed they were more intelligent than the general population. These people contribute to the development of fused lects, and they may be classified as "receptive" if they can understand but not command an L2. These people are able to change contexts fluidly in a process called code-switching. For 10 points, name these people who can speak multiple languages.**

ANSWER: bilingual people [accept answers like multilingual people] (The markedness model explains code-switching.)

<RR, Social Science>

11. **Barnston and Livezey used rotated PCA to identify low-frequency modes in this process. A class of models named for this process includes HadCM3, which usefully does not require flux corrections. Sea ice and vegetation terms improve those "general" or "global" models named for this process, which simulate exchange of heat, momentum, and moisture between cells of a 3D grid. Models of this process often average along the zonal direction to isolate its (\*) meridional component, which includes the polar, Ferrel, and Hadley cells. Interannual fluctuation in a component of this process named for Walker causes El Niño. Horizontal differences in temperature and salinity drive the "thermohaline" form of this process in the ocean. For 10 points, identify this process of large-scale fluid transport in the atmosphere.**

ANSWER: atmospheric circulation [or oceanic circulation; accept general circulation models; prompt on fluid flow or movement]

<VD, Other Science: Earth Sciences>

12. **This faith believes that after the first man and woman deposited their seed into separate jars, the wife's seed turned into insects while the man's gave birth to their forefather. During this religion's New Year, an egg-cracking game symbolizes the shattering of the White Pearl that created the universe. *Çîrok* are narratives used by this faith to explain sacred hymns called *beyts* and *qewls*. Non-practitioners of this faith used snippets of oral tradition to (\*) forge the Black Book and Book of Revelation. A six-day pilgrimage to Lalish is required by this faith which holds the Sinjar Mountains as sacred. Persecution of this faith centers on the conflation of *Iblis* with the leader of the Seven Angels who refused to bow before Adam. For 10 points, the "Peacock Angel" Melîk Taûs is revered in what Kurdish religion?**

ANSWER: **Yazidism** [accept word forms; or **Yezidi** or **Êzdiyatî** or **Êzdîtî**; accept **Sharfadin** or **Serfedîn**] (The first line tells the story of why Yazidis claim descent only from Adam and not Eve.)

<AS, Beliefs>

13. **A member of this group who was supposed to be roused by the tossing of pebbles accidentally causes the death of most of this group by whispering "Is it time?" A member of this group uses a piece of chalk to mark the door of a house identified by following the steps retraced by a blindfolded tailor. This group partly titles a story that originated from Hanna Diyab, who relayed the story to (\*) Antoine Galland. A servant stabs the leader of this group in the heart during a sword dance after pouring boiling oil on the heads of several members of this group; that woman, Morgiana, marries the son of a man whose brother Cassim is murdered by this group. These people own a sealed cave filled with treasure that opens upon saying the words "Open Sesame." For 10 points, name these people who attempt to kill Ali Baba in a story from the *Thousand and One Nights*.**

ANSWER: the **forty thieves** [accept answers indicating the **thieves** from **Ali Baba** until "Ali Baba" is read]

<KT, World Literature>

14. **Hackers from this country posed as fake recruiters on LinkedIn and WhatsApp in an attempt to implant malware on AstraZeneca's computers. The misspelling of the word "Foundation" as "Fundation" led to the discovery of an \$850 million robbery perpetrated by this nation's hackers on a Bangladeshi bank account. Marcus Hutchins's discovery of a kill-switch halted a ransomware attack orchestrated by this country that gained access to the NSA's (\*) EternalBlue exploit. Zinc and HIDDEN COBRA are alternative names for a hacker group in this country responsible for the WannaCry attacks. In 2022, millions in crypto were stolen from Axie Infinity by this country, whose "Guardians of Peace" hacked Sony in 2014. For 10 points, the Lazarus Group is sponsored by what country led by Kim Jong-Un?**

ANSWER: **North Korea** [or **Democratic People's Republic of Korea** or **DPRK** or **Chosŏn** Minjujuŭi Inmin Konghwaguk; reject "Republic of Korea"]

<KT, Current Events>

15. **A short-lived state founded by members of this family was disbanded after the Battle of Mulaydā' by the victorious Rashīdi family. Ibadgi Osman assassinated a member of this family for sacking Husayn's tomb in Karbalā'. At the Battle of Sabilla, a ruler of this family defeated rebellious 'Ikhwān nomadic militants that raided the Najd. That ruler of this family established the Emirate of Dir'īyya and secured control over the (\*) Hejaz from the Hashemites. This family's founder allied with the namesake of the Wahhābi school of Salafism and threatened to nationalize the Aramco oil company. The current head of this family is Mohammed bin Salman. For 10 points, name this royal family that rules an eponymous Arabian country containing Mecca.**

ANSWER: **Saud** family [or House of **Saud**; accept Kingdom of **Saudi** Arabia or Al Mamlakah al Arabiyah as **Suudiyyah**; accept Abdulaziz Ibn **Saud**]

<AS, World History>

16. Beginning students learning this type of music may practice the piece “Udan Mas.” This type of music has a structure encoded by the letters P, T, N, G, and W, such as how “pTpW” describes the start of a piece of this music titled “Kinds of Flowers.” Performances of this type of music often feature instruments that are grouped into “punctuating” and “elaborating” classes. Those instruments are intentionally tuned to cause the beats that create this music’s (\*) “shimmering” texture. Melodies in this music are played in the *balungan* section and are based on the scales *pelog* and *slendro*. *Wayang* puppetry accompanies this type of music performed by ensembles of bronze percussion instruments. For 10 points, name this traditional music of Indonesia.

ANSWER: gamelan (“Kinds of Flowers” is called “*Puspawarna*” in Indonesian.)

<AS, Auditory Arts>

17. A poem in this collection imagines “all gaseous, watery, vegetable, mineral processes” while the speaker thinks “of the clef of the universes.” Another poem in this collection describes “scallop-edged waves” reflecting “gorgeous clouds of the sunset.” The narrator ponders how a “vast similitude interlocks all” in a poem from this collection’s section (\*) “Sea-Drift,” along with a poem about a seaside encounter with the “musical shuttle” of a mockingbird. The declaration “you furnish your parts toward the soul” concludes a poem from this collection that describes “crowds of men and women attired in the usual costumes” and begins, “Flood-tide below me!” For 10 points, “On the Beach at Night Alone” and “Crossing Brooklyn Ferry” appear in what poetry collection by Walt Whitman?

ANSWER: Leaves of Grass (The unnamed poem about the mockingbird is “Out of the Cradle Endlessly Rocking.”)

<HG, American Literature>

18. Elizabeth Grosz authored an influential “Feminist Introduction” to this thinker. The book *Powers of Horror* argues that the “abject” is experienced when one of this thinker’s concepts erupts into our lives. Zizek defines ideology in terms of this thinker’s “fantasies” that explain the loss of the sublime object, and discusses this thinker’s graph of desire. This thinker’s concept of *jouissance* (“zhwee-SAWNS”) was embraced by feminists like Luce Irigaray and Julia Kristeva, who criticized his account of sexuation upon entrance to the symbolic order. This thinker, who distinguished reality from the (\*) Real, borrowed structuralist ideas to argue that the phallus is a signifier. This thinker theorized that a baby’s ability to recognize their own reflection was key to formation of the *ego* in his *Écrits* (“ay-KREE”), and called for a “return to Freud.” For 10 points, name this French psychoanalyst who theorized the “mirror stage.”

ANSWER: Jacques Lacan [or Jacques Marie Émile Lacan]

<VD, Philosophy>

19. Kavadh I crucified a member of this ethnic group for the crime of attempting to make the city of Mahoza an independent nation. The majority of apotropaic incantation bowls discovered at Nippur were written by magicians in the “square script” of these people. Ifra Hormizd, Shapur II’s mother, often advocated on behalf of this ethnic group. Scholars of this ethnicity known as *amorae* studied at academies located in Nehardea, Sura, and Pumbedita. The (\*) Exilarchs were political leaders of this ethnic group. These people established the Hasmonean Dynasty following a victory over the Seleucids during the Maccabean Revolt. The Edict of Cyrus allowed these people to return to their homeland decades after the Babylonian Captivity. For 10 points, various Sassanid kings protected what persecuted people who compiled the Babylonian Talmud?

ANSWER: Jews [accept Jewish people or members of the Jewish faith; accept Hebrews]

<KT, Other History: Ancient>

20. An ion channel called [this element]-sub-x found on astrocytes and ependymal cells in the subfornical organ senses this element’s blood concentration. This element’s ion channels can be classified as sensitive or resistant to a compound which causes paresthesia, paralysis and death, tetrodotoxin. Gliflozins are the first line of treatment in (\*) type 2 diabetes patients with heart failure or chronic kidney disease because they block the

intestinal cotransport of glucose and this element are the first line of treatment. A threshold potential of negative 55 millivolts opens ion channels to allow influx of this element from the extracellular space, ultimately causing the depolarization that precedes an action potential. For 10 points, name this alkali metal whose ions are exchanged for potassium ions by a namesake enzymatic pump.

ANSWER: **sodium** [accept **Na** or **Na<sup>+</sup>** (“N-A one plus”); accept **Na<sub>x</sub>** (“N-A sub x”)]

<JZ, Biology>

## Bonuses

1. The desert oasis of Tayma was a major trade center on this peninsula whose ancient civilizations included the Midianites and the peoples of Magan. For 10 points each:

[10m] Name this peninsula whose kingdom of Hadramaut provided the frankincense and myrrh traded along the Incense Route. The Himyarites were based on this peninsula.

ANSWER: Arabia [or Arabian Peninsula]

[10h] The peoples of Magan in modern-day Oman were an important source of this hard-to-carve stone that was used to create the majority of Gudea's statues. The Code of Hammurabi is inscribed on a stela made from this black stone.

ANSWER: diorite

[10e] Nabatean interests in the control of the Incense Route centered around this "Rose Red city" located in modern-day Jordan.

ANSWER: Petra

<KT, Other History: Ancient>

2. In the category of sets, these relations are exactly the bijective functions. For 10 points each:

[10m] Name these relations that preserve the mathematical structure of an object, which constructions in category theory are usually defined "up to." Any two finite-dimensional vector spaces with the same dimension have this relationship.

ANSWER: isomorphisms [accept word forms like isomorphic]

[10e] In category theory, an isomorphism is a function along with its corresponding one of these functions, which compose to give the identity function. These functions are denoted with a superscript negative one.

ANSWER: inverse function

[10h] A category with one object whose morphisms are all isomorphisms can be viewed as one of these structures. In algebraic topology, the set of homotopy classes of loops centered on a given point  $x$  is one of these structures.

ANSWER: groups [accept fundamental group]

<BW, Other Science: Math>

3. This composer made Juan Crisóstomo Arriaga an assistant professor at the Paris Conservatoire after declaring that Arriaga had nothing left to learn following three months of study. For 10 points each:

[10h] Name this composer. The French government commissioned a C-minor requiem by this composer for Louis XVI ("the sixteenth") and Marie Antoinette's funeral.

ANSWER: Luigi Cherubini ("care-oo-BEE-nee") [or Maria Luigi Carlo Zenobio Salvatore Cherubini]

[10m] Cherubini was very impressed by Arriaga's setting of this hymn. To replace a similar piece by Alessandro Scarlatti, Giovanni Pergolesi wrote a setting of this hymn that portrays the Crucifixion from Mary's point of view.

ANSWER: Stabat mater

[10e] As a teenager, this composer transcribed Ligniville's *Stabat mater* and Allegri's *Miserere*. Arriaga is considered the Spanish version of this Austrian who died before he could finish his requiem.

ANSWER: Wolfgang Amadeus Mozart [or Johannes Chrysostomus Wolfgangus Theophilus Mozart]

<JE, Auditory Arts>

4. This character warns, "don't think it's only the heart that b-b-breaks" in a poem in which she wishes her "beloved sweetheart bastard" dead. For 10 points each:

[10m] Name this literary character, who titles that poem by Carol Anne Duffy. In a novel, this character lives with her adopted daughter in a house where all the clocks are stopped at twenty to nine.

ANSWER: Miss Havisham



[10e] Miss Havisham dies after her long-worn wedding dress catches on fire in this Charles Dickens novel, a *bildungsroman* about the orphan Pip.

ANSWER: **Great Expectations**

[10h] Pip confronts Miss Havisham over his benefactor in a conversation where Estella sits silently, doing only this action. A character in another Dickens novel is introduced doing this activity in a wine shop after her husband watches peasants drink wine off a filthy street.

ANSWER: **knitting** [accept **making a scarf**; prompt on **stitching**; prompt on **tricoteuse**; reject other forms of textile arts, such as “embroidery” or “crochet”] (*The second character is Madame Defarge from A Tale of Two Cities.*)

<HG, British Literature>

5. When applied to this model, the Bertrand paradox states that multiple firms will sell goods that consumers perceive as identical. For 10 points each:

[10h] Name this model of competition. Firms simultaneously and independently determine the quantity of output to produce in this model, which assumes no product differentiation and is often contrasted with Stackelberg competition.

ANSWER: **Cournot** (“**coor-NO**”) model

[10e] Cournot competition models homogeneous oligopolies, in which each firm's product is a “perfect” one of these products for each other. These similar goods are contrasted with complementary goods.

ANSWER: **substitutes**

[10m] This economist names a law which claims that firms should seek to minimally differentiate their products to maximize profit. In the theory of the firm, this economist names a lemma which finds the maximizing net supply as a corollary to the envelope theorem.

ANSWER: Harold **Hotelling** [accept **Hotelling**’s lemma or **Hotelling**’s law]

<KJ, Social Science>

6. Enrichment cultures of bacteria which produce this compound contain a reducing agent and ferrous iron, which reacts with this compound to yield an insoluble black product. For 10 points each:

[10m] Name this compound, the end product of cellular respiration driven by sulfate reduction. In contrast, other bacterial species classed as sulfur oxidizers use this species as an electron donor.

ANSWER: **hydrogen sulfide** [or **H<sub>2</sub>S**]

[10e] Many sulfate-reducing bacteria are found in marine sediments and hot springs because they cannot tolerate exposure to a certain gas and therefore must live in environments described by this term.

ANSWER: **anaerobic** [accept word forms; accept **anoxic**; accept any description of **lacking oxygen**]

[10h] Under anaerobic conditions, sulfate-reducing bacteria compete for H<sub>2</sub> against methanogens and bacteria which produce this other molecule via the Wood–Ljungdahl pathway. Gut microbiota produce this SCFA as well.

ANSWER: **acetate** [or **CH<sub>3</sub>COO<sup>-</sup>**; or **CH<sub>3</sub>CO<sub>2</sub><sup>-</sup>**; accept **acetogens**; accept **acetic acid**]

<HK, Biology>

7. Although widely taught in AP Human Geography classes, Klaus Dettmann’s model of the “traditional Islamic city” has faced criticisms from geographers for its lack of applicability. Answer the following about these criticisms, for 10 points each:

[10h] Dettmann’s model was built solely on studies of this city. This city’s growth has led to the drying up of the Baradā River and the Ghūṭa oasis it feeds.

ANSWER: **Damascus** [or **Dimashq**]

[10m] A common criticism of Dettmann’s model is its lack of these old quarters ubiquitous in North African cities, like UNESCO-listed examples in Fez and Tunis. In English, these quarters are named for the Arabic word for “city.”

ANSWER: **medina** quarters [or **medinas** or **madīnat** al-qadīma or **mudun al-qadīma** or **madā’in al-qadīma**; accept **Medina** of Fez or **Medina** of Tunis; accept **kasbahs** or **qasaba**]



[10e] As a more modern alternative to Dettmann’s model, Martin Seger proposed a binodal model by studying how Tehran has both an expanding old bazaar quarter and a new, modern quarter built with money from this main industry of the Gulf.

ANSWER: petroleum industry [or oil industry or gasoline industry; accept equivalents]

<AS, Geography>

8. While Gangeśa’s (“gun-GAY-shuh”) *Jewel* demonstrates his dedication to the Nyāya school, it also builds upon the traditions and arguments of this other school, of which Gangeśa was a teacher. For 10 points each:

[10h] Name this school of thought, which along with Vedānta (“vay-DAHN-tuh”) supposes a svataḥ prāmāṇya (“SVUH-tuh PRAH-mah-nyuh”), or a self certifying source of knowledge. This school was founded by Jaimini, and focuses on early vedic texts dealing with rituals.

ANSWER: Purva-Mīmāṃsā (“mee-MAHN-sah”) [reject “Uttara-Mīmāṃsā”]

[10e] The Svataḥ Prāmāṇya shows one of Mīmāṃsā’s developments in this field of philosophy, which deals in defining and figuring out how to acquire knowledge.

ANSWER: epistemology

[10m] While reflecting on anumāna, or inference, as a source of knowledge, Gangeśa discusses the list of five of these things mentioned in the Nyāya sūtra. In Aristotle’s logic, amphiboly and equivocation are these things.

ANSWER: fallacies [or hetvābhāsa]

<MB, Philosophy>

9. This fairy tale inspired a Ruòxī (“roo-oh-SHEE”) Chén story in which Sixth eats her own tongue and binds her feet as part of the title “Price of Knives” to win a wángzǐ’s (“WONG-dzih’s”) love. For 10 points each:

[10e] Name this fairy tale in which the title creature falls in love with a prince and trades her voice to a sea witch in exchange for legs.

ANSWER: “The Little Mermaid”

[10m] Lily grows up avoiding mermaids in the Mekong in an Alyssa Wong short story opening “My mother was a fish,” which is a likely reference to this novel that devotes an entire chapter to the sentence “My mother is a fish.”

ANSWER: As I Lay Dying (the Wong story is “The Fisher Queen”)

[10h] The formerly sea-bound goddess Nüwa grows legs in a Larissa Lai novel titled for this substance. In another novel titled for this substance, a woman leaves her lover Therese to try to retain custody of her daughter Rindy.

ANSWER: salt [accept Salt Fish Girl or The Price of Salt]

<CM, American Literature>

10. The Hayden Expedition to this location issued propaganda that its natives were afraid of geysers to increase tourism. For 10 points each:

[10e] Name this first U.S. national park that was established in 1872.

ANSWER: Yellowstone National Park

[10h] The Secretary of the Interior under President Grant who first requested federal protection of Yellowstone was a member of this family. A president whose (emphasize) mother belonged to this family expanded the National Park Service through a conservation program headed by Robert Fechner.

ANSWER: Delano [accept Columbus Delano; prompt on Franklin Delano Roosevelt; prompt on FDR; reject “Roosevelt”]

[10m] After the Battle of the Big Hole, this leader fled through Yellowstone. The National Park Service’s Flight of 1877 trail follows a journey by this leader, who confessed “his heart was sick and sad” to Nelson Miles.

ANSWER: Chief Joseph [or Young Joseph; or Joseph the Younger; or Hinmatóowvalahṭqít]

<GP, American History>

11. E. E. Evans-Pritchard used this anthropological paradigm partly developed by A. R. Radcliffe-Brown to explain how witchcraft and magic formed a logical system of beliefs among the Azande. For 10 points each:

[10m] Name this paradigm that explains social practices based on how they fulfill societal needs.

ANSWER: structural **functionalism**

[10e] Radcliffe-Brown's structural functionalism counters this thinker's psychological functionalism, which argues that culture evolved from individual needs. This thinker documented the kula exchange in *Argonauts of the Western Pacific*.

ANSWER: Bronisław **Malinowski** [or Bronisław Kasper **Malinowski**]

[10h] This student of Malinowski critiqued structural functionalism in "Political Systems of Highland Burma." This British anthropologist bridged the gap from earlier structural functionalism to newer French structuralism in *Rethinking Anthropology*.

ANSWER: Edmund **Leach** [or Sir Edmund Ronald **Leach**]

<MB, Social Science>

12. Answer some questions about the division of political power in postwar Europe, for 10 points each:

[10e] From 1959 to 2003, this country fixed the electoral makeup of its Federal Council using a "magic formula" called the *zauberformel*. This country is divided into cantons like Luzern and Bern.

ANSWER: **Switzerland** [or **Swiss** Confederation; or **Schweiz** or **Suisse** or **Svizzera** or **Svizra**]

[10h] In Austria, the social democratic and Christian democratic parties historically split government posts between them through this system when they both ruled as part of a grand coalition.

ANSWER: **Proporz** [or **Proportionalität**]

[10m] In the "Historic Compromise," Christian democrats led by Aldo Moro formed a political alliance with Enrico Berlinguer, who led a party of this type. In France, George Marchais led a party of this type into the "Common Programme" with François Mitterrand.

ANSWER: **communist** party [accept Italian **Communist** Party or Partito **Comunista** Italiano; accept French **Communist** Party or Parti **communiste** français; prompt on **PCI** or **PCF**]

<GP, European History>

13. An April Fools molecule named Rashnovinol A has two methyl groups on this functional group, creating a pentavalent carbon. For 10 points each:

[10e] Name this functional group that features two *sp* hybridized carbons bound to each other through a triple bond. Acetylene ("uh-SEE-tuh-leen") is the simplest example of this functional group.

ANSWER: **alkyne**

[10m] The fictional molecule has a double bond that includes these carbons of a bicyclic system, which violates Bredt's rule. These carbons are shared by at least two rings.

ANSWER: **bridgehead** carbons

[10h] If you do want a pentavalent carbon, a pretty close example would be this cationic carbon species that features a  $\text{CH}_3^+$  carbenium ion bonded to molecular hydrogen.

ANSWER: **methanium** [prompt on **CH<sub>5</sub><sup>+</sup>**]

<JZ, Chemistry>

14. The first issue of the periodical *Die Propyläen* ("dee pro-pee-LAY-un") featured a Johann Wolfgang van Goethe ("GER-tuh") essay on how this sculpture occupied a "tragic idyll" in its "sensuously pleasing" depiction of pain. For 10 points each:

[10m] Name this sculpture whose figures are replaced with apes in a print by Titian. This sculpture excavated from a vineyard and located in the Vatican Museums depicts three figures connected by a serpent.

ANSWER: **Laocoön** ("lay-AW-kuh-wahn") and His Sons [or the **Laocoön** Group; accept *Gruppo del Laocoonte*; accept "Über **Laokoon**"]

[10e] Goethe disagreed with Isaac Newton in a theory of these things, instead arguing that darkness was a key element. Complementary examples of these things appear across from one another on a “wheel” referenced by artists.

ANSWER: colors [accept a color wheel; accept complementary colors]

[10h] Goethe scoffed at the “retrograde” nature of this German Romantic art movement, whose members like Peter von Cornelius and Johann Friedrich Overbeck sought to revive the religious nature of early Renaissance painters like Raphael.

ANSWER: The Nazarenes [prompt on Brotherhood of St. Luke]

<GE, Visual Arts>

15. A reference to this place titles Thomas Merton’s autobiography about forgoing a life of debauchery to become a Trappist monk, which he titled “The Seven-Storey Mountain.” For 10 points each:

[10m] Name this place whose entrance is guarded by Cato the Younger. Travel in this place is barred after sunset, since this place cannot be summited at night.

ANSWER: (Mount) Purgatorio [accept Purgatory]

[10e] Upon ascending the Purgatorio, Dante reunites with this woman, the real-life object of his affection, who takes over for Virgil as his guide. This woman also inspired Dante’s poetry collection *La Vita Nuova*.

ANSWER: Beatrice Portinari [or Beatrice di Folco Portinari]

[10h] On the sixth terrace of Mount Purgatorio, Dante is praised for *La Vita Nuova*, coining the name for this medieval poetic movement. This movement included Guido Cavalcanti and focused on divine love and beauty.

ANSWER: dolce stil novo [or sweet new style]

<HG, European Literature>

16. You have just finished tuning your violin by turning the cylindrical pegs at the end to wrap the strings around them. For 10 points each, answer some questions about why your violin is not exploding.

[10e] The string is held in place on the peg by the static form of this force that arises in surfaces that rub against each other.

ANSWER: static friction

[10h] When fixing the tension on one end of a string, the capstan equation states that, before slipping, the maximum tension on the other end grows as this function of the wrapping angle.

ANSWER: exponential [accept the exponential of the coefficient of friction times the angle]

[10m] Typical violin strings are made of wound metal, so the industry standard ASTM A931 applies for measuring this material property. The standard measures this property by wrapping the string around two cylinders and pulling until failure.

ANSWER: ultimate tensile strength

<RA, Physics>

17. You are a *hpāya kyun* (“PUH-yah CHOON”), one of many indentured servants that tend to Buddhist monks and religious property. Answer the following about your life, for 10 points each:

[10h] Your job is to clean religious buildings like this oldest stupa in the world. Dhammazedi’s bell was constructed to be situated at this pagoda built around eight strands of the Buddha’s hair.

ANSWER: Shwedagon Pagoda [or Great Dagon Pagoda; accept Golden Dagon Pagoda; prompt on Golden Pagoda or Great Pagoda]

[10e] As an indentured servant, you are exempt from the corvée system and a policy of this type. In the Mughal Empire, Akbar abolished a policy of this type called the *jizya*.

ANSWER: tax [accept poll tax]

[10m] In addition to the Shwedagon Pagoda, you operate in other sites in this kingdom Anawrahta founded to unify the Pyu city-states. The Burmese language was developed in this kingdom.

ANSWER: Kingdom of Pagan [or Pagan Empire; or Kingdom of Bāgan or Bāgan Empire]

<AS, World History>

18. A Tanzanian art style characterized by the use of paint intended for these objects inspired George Lilanga to use it to emphasize the colors of the *shetani* from Makonde folklore in his own art. For 10 points each:

[10h] Name these objects, paint for which applied to masonite is the main medium of Tingatinga paintings in Dar es Salaam. Meissa Fall creates sculptures from parts of these objects.

ANSWER: bicycles [accept bikes; accept pedal cycles; accept bicycle paint]

[10e] One of these instruments called the ramkie is usually made of bicycle brake wires and oil cans by the Khoikhoi. Franco Luambo introduced the Lingala *seben* beat to rumba as a pioneer of this six-stringed instrument in Africa.

ANSWER: guitars [accept electric guitars]

[10m] *Mandabi*, a film from this country by Ousmane Sembène, has been dubbed the “first cousin to *Bicycle Thieves*.” A cowherd stares at his broken motorcycle at the end of another film from this country, *Touki Bouki*.

ANSWER: Senegal [or Republic of Senegal or Réeum Senegaal or République du Sénégal]

<AS, Other Arts: Visual>

19. In Unnāyī Vāriyār’s play *Nalacharitam* (“nuh-luh-CHUH-rid-um”), this heroine’s role is expanded as she plans a fake wedding to draw her husband out from hiding as the ugly charioteer Bāhugan. For 10 points each:

[10h] Name this woman whose romance, separation, and reunion with her husband Nala forms the Sanskrit “great poem” *Naishadhīyacharitam* (“nye-SHUD-dee-yuh-CHUH-rit-tum”).

ANSWER: Damayanti (“DUM-uh-yun-tee”)

[10e] Stories like that of Nala and Damayanti and Sāvitrī and Satyavān are told to the exiled Pāndava brothers in this Sanskrit epic, in which the Pandavas fight the Kauravas (“KOW-ruh-vuhs”) in the Kurukshetra (“koo-rook-SHAY-truh”) War.

ANSWER: Mahabharata [or Mahābhārata]

[10m] A story from the *Mahabharata* inspired this play by Kālidāsa, in which Dushyanta regains his memory of the title figure, his wife, after finding her signet ring in a fish.

ANSWER: *The Recognition of* Shakuntalā [or *Abhijñānashakuntalam*]

<AS, World Literature>

20. Catholics from this non-U.S. country spank each other with pussy willow while celebrating Dyngus Day on Easter Monday. For 10 points each:

[10m] Name this country whose main Bible translation is the Millenium Bible. The Light-Life movement in this country inspired a religious leader from it to establish World Youth Day.

ANSWER: Poland (The religious leader is Pope John Paul II.)

[10h] Along with pussy willow fights, Dyngus Day celebrations often include boys and girls performing this action on each other. St. Thomas converted a group of Brahmins after the results of this action stayed in the air.

ANSWER: throwing water [accept any description of an activity in which people get wet or throw water on each other; accept water fights; accept using a squirt gun; accept water balloon fights; accept dunking someone in water]

[10e] Children can avoid being soaked with water if they bribe their attacker with these painted objects. These objects, which symbolize rebirth, are scavenged for in a traditional Easter “hunt.”

ANSWER: eggs [accept colored eggs or painted eggs or Easter eggs]

<GE, Beliefs>