

CALISTO: California Spring Tournament 2020

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Packet 4 Tossups

1. **Recent observations of two “ultra diffuse” examples of these objects have provided new evidence against MOND (mond). A class of these objects named for Seyfert (SEE-fert) has active nuclei that emit high amounts of radiation. Vera Rubin observed that the rotation curves of these objects behave as if they were surrounded by a “halo” of (*) dark matter. These objects are classified by the presence of a bar on the right side of Hubble’s tuning fork. Classes of these objects include elliptical and spiral. For 10 points, name these large systems of stars exemplified by the Milky Way.**

ANSWER: galaxies [or galaxy; accept ultra diffuse galaxy or Seyfert galaxy or active galactic nuclei or spiral galaxy or elliptical galaxy or barred spiral galaxy or Milky Way Galaxy]

<Astronomy — French> [Edited]

2. **Plumpness and chubbiness was the standard of beauty for women during this dynasty, exemplified by one of the Four Great Beauties who supposedly “put flowers to shame.” After the collapse of her mother’s Southern Zhōu (“joe”) Dynasty, the Tàipíng Princess held sway during this dynasty. The favoritism of Concubine (*) Yáng helped spur the rebellion of a Sogdian warlord during this dynasty. This dynasty was interrupted by China’s only female emperor, Wǔ Zétiān. For 10 points, name this dynasty that succeeded the Sui Dynasty and experienced the rebellion of Ān Lùshān.**

ANSWER: Táng Dynasty [or Táng Cháo; accept Táng Empire]

<Asian History — Ma> [Edited]

3. **In a novel by this author, the Head Porter fires a lift-boy at the Hotel Occidental after Robinson comes to visit. In another novel by this author, a gatekeeper tells a man that he may be able to pass a gate in the future, “but not now.” In that novel, a priest tells the parable “Before the Law” to the protagonist, who is later killed “like a dog.” A father injures his son by throwing (*) apples at his back in a novella by this author in which a salesman awakes to find that he has been transformed into a “monstrous vermin.” For 10 points, name this author who wrote about the arrest of Josef K (kaw) in *The Trial* and described Gregor Samsa’s transformation into a giant insect in *The Metamorphosis*.**

ANSWER: Franz Kafka (The novel in the first clue is Kafka’s unfinished novel *Amerika*.)

<Short Fiction — Gray/Venkateswaran> [Ed. French]

4. **In a rotating frame of reference, the fictitious Euler (OY-ler) force is proportional to minus the angular acceleration of the frame cross this vector. Problems involving torque are often simplified by selecting the origin so that this vector equals zero. By definition, (*) central forces are always antiparallel to this vector. This vector sweeps out equal areas in equal times according to Kepler’s second law. Angular momentum equals the cross product of this vector and momentum. For a planetary orbit, this vector traces out an ellipse. For 10 points, name this vector that points from the origin to the location of an object in space.**

ANSWER: position [or radius or radial position or distance or position vector or radius vector or radial vector or radial position vector or distance vector; accept relative position or relative position vector; accept location or location vector before “location”; prompt on r or x or s; do NOT accept or prompt on “displacement” or “displacement vector”]

<Physics — French> [Edited]

5. **Indices that measure this phenomenon are commonly derived from market baskets. The increase in transaction costs due to this phenomenon drives shoe-leather costs. The federal funds rate was dramatically increased to combat this phenomenon in the Volcker shock. Real variables, unlike nominal variables, account for this phenomenon. Although the (*) Phillips curve posited a stable inverse relationship between this phenomenon and unemployment, this phenomenon increased *with* stagnation during the 1970s. Zimbabwe suffered extremely high rates of this phenomenon in the early 21st century. For 10 points, name this phenomenon in which currency loses its value.**

ANSWER: **inflation** [accept **hyperinflation** or **stagflation** or **inflation** rate; accept **deflation** or **disinflation** before “shoe-leather”]

<Economics — Shahriar> [Ed. French]

6. **In a film set in this city, a man declares “it is all an illusion” in a surrealist sequence at the Club Silencio. Betty Elms helps the amnesiac “Rita” recover her identity in a film titled after a street in this city by David Lynch. In another film set in this city, Jules quotes Ezekiel 25:17 before unloading a clip in Brett, who had stolen a (*) briefcase from Marsellus Wallace. A film set in this city opens by panning over stopped cars listening to different radio stations before the beginning of the number “Another Day of Sun.” For 10 points, name this setting of *Pulp Fiction*, *Mulholland Drive*, and *La La Land*, the center of the American film industry.**

ANSWER: **Los Angeles** [or **LA**; accept **Hollywood** or **Santa Monica**]

<Film — French> [Edited]

7. **Members of this group were routed by Lumbee Native Americans in the Battle of Hayes Pond. The rape and murder of Madge Oberholtzer was committed by a leader of this group, D. C. Stephenson. Woodrow Wilson controversially showed a film in the White House glorifying this group, (*) *The Birth of a Nation*. The second iteration of this organization was founded on Stone Mountain by William Joseph Simmons, who proclaimed himself its “Grand Wizard.” For 10 points, name this white supremacist organization whose members wear white robes and burn crosses.**

ANSWER: **Ku Klux Klan** [or **KKK**; accept the First **KKK** or the Second **KKK** or the **Invisible Empire** of the South]

<US History — Hong> [Edited]

8. **This author wrote, “Tomorrow... is darkness. / Joy today!” at the end of a poem in which he tells a band to “play, pLAY, PLAY!” In a poem by this author, a mother explains, “it’s had tacks in it” and “splinters” and “boards torn up” after telling her son, “life for me ain’t been no (*) crystal stair.” In another poem, this author described being “lulled... to sleep” by one of the title things, which are “older than the flow of human blood in human veins.” That poem concludes, “My soul has grown deep like the rivers.” For 10 points, name this Harlem Renaissance poet of “The Negro Speaks of Rivers.”**

ANSWER: Langston **Hughes** (The first poem is “Harlem Night Club”; the second poem is “Mother to Son.”)

<Poetry — French> [Edited]

9. **Late in life, this artist painted nudes on wine bottles to create works like *Femme-bouteille* (fem boo-“TIE”). This artist painted clouds onto a death mask of Napoleon in *The Future of Painting*. A painting by this artist includes a copy of *The Narrative of Arthur Gordon Pym* and depicts his patron Edward James looking into a mirror that reflects the back of his head. This artist of (*) *Not to be Reproduced* depicted a train emerging out of a fireplace in *Time Transfixed*. This artist’s *The Treachery of Images* contains a caption translating to “This is not a pipe.” For 10 points, name this Belgian surrealist.**

ANSWER: René **Magritte** [or René François Ghislain **Magritte**]

<Painting — Venkateswaran> [Ed. Malouf]

10. In 2016, a player was suspended from this team for misconduct like delaying a game by changing gloves and calling an opposing team “a bunch of cowards.” Chants of “Zika” were directed at that player on this team. A member of this team celebrated by mockingly drinking from an imaginary (*) teacup during a win over England. This team defeated Thailand thirteen to zero in the first game of a 2019 international tournament that this team won. For 10 points, name this national team for which Alex Morgan and Megan Rapinoe played during the 2019 Women’s World Cup.

ANSWER: United States women’s national soccer team [or USA women’s national soccer team or USWNT]
<Pop Culture — Gray> [Edited]

11. In one form of this religion, prayers are written on colorful rectangular cloth pieces and hung on strings. The Bon Religion was succeeded by that form of this religion, which refers to its rulers as “Rinpoche (REEN-po-cheh).” In one form of this religion, the Bardo Thodol is used for funerary rites. Giant golden prayer wheels of this religion are located at the (*) Potala Palace. The leader of this religion’s Red Hat sect fled to Nepal after he was exiled from his homeland in 1959. That leader is Tenzin Gyatso, the fourteenth Dalai Lama. For 10 points, name this religion whose Tibetan form is part of its Mahayana sect.

ANSWER: Buddhism [accept Tibetan Buddhism or Vajrayana Buddhism or Mahayana Buddhism or Tantric Buddhism; prompt on Yellow Hat sect or Red Hat sect before “red” by asking, “What overall religion is the sect part of?”]
<Religion — Li/Dai> [Ed. Venkateswaran]

12. A drug commonly used against this pathogen is a competitive inhibitor that stops a certain enzyme from cleaving sialic acid. A homotrimeric glycoprotein found in this pathogen is named for its ability to bind red blood cells together. Oseltamivir can be used against this pathogen. Antigenic shift in this virus's surface proteins hemagglutinin and neuraminidase are responsible for its (*) high mutation rate, which makes it necessary for this virus's vaccines to be updated twice a year. Subtypes of this virus include H5N1 and H1N1. For 10 points, name this common virus which comes in “avian” and “swine” varieties.

ANSWER: influenza virus [or flu or swine flu or avian flu or influenza A or influenzavirus A or influenza B or influenza virus B; prompt on Orthomyxoviridae; do NOT accept or prompt on "influenza C" or "influenzavirus C" or "influenza D" or "influenzavirus D"]
<Biology — Bandara> [Ed. Gurazada]

13. One of these locations was connected by underground tunnels to the largest gathering space of worshippers of Mithras. An enlarged copy of the Farnese Hercules was discovered in one of these locations. People in one of these locations used a strigil after applying olive oil. The Aqua Antoniniana aqueduct was built to provide water to one of these buildings named for (*) Caracalla. In these buildings people would enter the caldarium, or “hot plunge,” followed by the frigidarium, or “cold plunge.” For 10 points, name these buildings which Romans frequented in order to clean themselves.

ANSWER: Roman bathhouses [accept Roman baths or thermae or Baths of Caracalla; prompt on Mithraeum]
<Ancient/Classical History — Hong> [Edited]

14. This text is sometimes titled after an incipit describing its hero, “Surpassing all other kings.” A man in this text travels twelve “double hours” through a dark tunnel to a forest where he rashly destroys the Stone Men. In this text, a snake sheds its skin and becomes young after stealing a magic (*) herb that a hero in this text retrieved from the bottom of the ocean. The title character of this text journeys to the Cedar Forest where he slays the ogre Humbaba. At the beginning of this text, the temple prostitute Shamhat seduces the wild man Enkidu. For 10 points, name this text about a king of Uruk (OO-ruk) who seeks immortality, an ancient Sumerian epic.

ANSWER: *The Epic of Gilgamesh* [or *The Epic of Bilgamesh* or *The Epic of Bilgames*; accept *Shutur al sharri* or *He who saw the deep* or *He who saw the abyss* or *He who saw the unknown* or *Sha naqba imuru*; accept *Surpassing all other kings* before “Surpassing all other kings”]

<Mythology — French> [Edited]

15. In a novel by this author, a man finds a “strong and handsome” name in the Bible, prompting him to name his daughter Pilate (“pilot”). In another novel by this author, a group of women watch an apparition disappear after Mr. Bodwin is attacked with an icepick. A bag of stolen gold eventually leads to a battle between Guitar and (*) Milkman Dead in a novel by this author, who also wrote a novel in which a ghost haunts 124 Bluestone Road years after Sethe (SETH-uh) kills her infant daughter to save her from slavery. For 10 points, name this recently-deceased African-American author of *Song of Solomon*, *The Bluest Eye*, and *Beloved*.

ANSWER: Toni Morrison [or Chloe Anthony Wofford Morrison or Chloe Ardelia Wofford]

<Long Fiction — Schwartz> [Edited]

16. Sergei Prokofiev included a four-cello chorale in the finale of his symphony of this number, which is in B-flat major. Only the strings and harp play in the “Adagietto” movement of Gustav Mahler’s symphony of this number, which opens with a prominent trumpet solo in C-sharp minor. A symphony of this number subverts its home key by ending with twenty-nine bars of (*) C major chords. The opening motif of that C minor symphony of this number is called “Fate knocking at the door.” For 10 points, name this number of the Beethoven symphony that opens with a (read slowly) “short-short-short-long” motif.

ANSWER: five [or 5 or fifth symphony; accept other equivalents]

<Classical Music — Ma> [Edited]

17. In this city, a pair of “grand” and “small” sister museums replaced a former “Palace of Industry.” A park in this city contains a museum built in a former tennis court, as well as a museum of “Decorative Arts.” A “Royal Bridge,” one of the thirty-seven bridges over this city’s central river, separates that park from a different museum in this city with a (*) long glass roof over a central gallery. That museum in this city is housed in a Beaux-Arts (boh-zarr) styled former train station and is named after Orsay. A glass pyramid stands outside a museum in this city which contains the *Mona Lisa*. For 10 points, name this city that houses the Louvre.

ANSWER: Paris

<Geography — Gray> [Edited]

18. This play’s stage directions describe ambient music from a nearby club as a “blue piano.” A character in this play attempts to hide her age by blocking out the light from a paper lantern. That character dances to the “Varsouviana” after confronting her husband Allan Grey about his homosexual affair. In this play, a game of (*) poker is interrupted when Mitch’s friend throws a radio out of a window. This play ends after a character admits that she has “always depended on the kindness of strangers” as she is taken to a mental hospital. For 10 points, name this play about Blanche’s stay in Stella and Stanley Kowalski’s home, written by Tennessee Williams.

ANSWER: *A Streetcar Named Desire*

<Drama — Schwartz> [Edited]

19. **One thinker from this city wrote a Socratic dialogue that states, “what benefits the enemy harms you...”**
A Republic based in this city was ended after Alessandro the Moor was appointed as the duke of this city.
Giuliano, a member of this city’s ruling family, died as part of an assassination attempt by the (*) Pazzi
family. The Bonfire of the Vanities occurred in this city under the Dominican friar Girolamo Savonarola. An author
from this city criticized its conquest of Pisa in *The Prince*. For 10 points, name this Italian city controlled by the
Medici family, the home of Niccolò Machiavelli.

ANSWER: **Florence** [or **Firenze**; accept Republic of **Florence** or Duchy of **Florence**] (The treatise is Machiavelli’s
The Art of War.)

<European History — Ma> [Edited]

20. **One form of this technique traps small molecules in pores of an adsorbent material such as polystyrene. In**
another form of this technique, a sample passes through a flame ionization detector after passing through a
“carrier gas” such as helium. One form of this technique pumps a sample through a column filled with an
adsorbent material using a solvent at a very high pressure. In this technique, the (*) retention factor
characterizes the distance travelled by a given compound. This technique uses a mobile phase to carry a mixture up
the stationary phase, and it is often demonstrated using paper. For 10 points, name this technique named for the
colored patterns formed by separating compounds.

ANSWER: **chromatography** [accept size-exclusion **chromatography** or **SEC** or gel-filtration **chromatography** or
gel-permeation **chromatography** or **GPC** or molecular-sieve **chromatography** or gas **chromatography** or **GC** or
high-performance liquid **chromatography** or high-pressure liquid **chromatography** or **HPLC** or column
chromatography or paper **chromatography**]

<Chemistry — Gurazada> [Edited]

Packet 4 Bonuses

1. This monarch signed the treaty of Kuchuk-Kaynarca (KUCH-uk kuh-NAR-juh), which gave her domain protection over all Christians of the Ottoman Empire. For 10 points each:

[10] Name this empress of Russia whose lovers included Grigory Potemkin and Grigory Orlov. She suppressed Pugachev's revolt.

ANSWER: **Catherine the Great** [or **Catherine II** or **Yekaterina Velikaya** or **Ekaterina Velikaya**; prompt on **Catherine** or **Yekaterina** or **Ekaterina**]

[10] Catherine signed the second partition of this country, which was once ruled by the Jagiellonian (yaw-gyuh-LOH-nee-uhn) Dynasty from Krakow.

ANSWER: **Poland** [or **Rzeczpospolita Polska** or Republika **Włoska**; accept **Poland-Lithuania** or **Polish-Lithuanian Commonwealth**]

[10] This lover of Catherine the Great ruled Poland before it was partitioned. He suppressed the Kosciuszko (ko-SHOOSH-ko) uprising and passed reforms during the period of the Great Sejm (same).

ANSWER: Stanisław **Poniatowski** (STAH-nee-swaff pone-ya-TOFF-skee) [or **Stanisław II** Augustus]
<European History — Iyer> [Edited]

2. For 10 points each, answer the following about G6PD (G-6-P-D) deficiency:

[10] The enzyme G6PD oxidizes this compound as the starting point of the pentose phosphate pathway. This compound can be produced by the action of hexokinase.

ANSWER: **glucose 6-phosphate** [or D-**glucose 6-phosphate** or D-**glucopyranose 6-phosphate** or the **Robison** ester; accept **glucose 6-phosphate** dehydrogenase; prompt on **G6P** or **glucose phosphate**]

[10] Ingestion of fava beans by those with G6PD deficiency causes hemolysis, the breakdown of "red" cells in this fluid. This fluid also contains plasma, platelets, and "white" cells.

ANSWER: **blood** [or **sanguine humor**; accept blood **serum**]

[10] G6PD deficiency makes individuals more suspect to hemolysis because the absence of the NADPH (N-A-D-P-H) usually produced by G6PD inactivates glutathione, a compound of this type. Compounds of this type neutralize free radicals in the body, and they include vitamins E and C.

ANSWER: **antioxidants** [prompt on **radical inhibitors**]
<Biology — Gurazada> [Edited]

3. For 10 points each, answer the following about misuse of your data:

[10] The largest data breach in history was among customers of this credit reporting agency; free credit monitoring or up to \$125 cash were among settlement options for victims of that breach.

ANSWER: **Equifax** Inc.

[10] In 2018, it was revealed that Cambridge Analytica had harvested personal data from this company's social network partially for political purposes. That led to this company's CEO, Mark Zuckerberg, testifying to Congress.

ANSWER: **Facebook**, Inc.

[10] Glenn Greenwald led reporting by this British newspaper with the *Washington Post* about Edward Snowden's leaked details of NSA surveillance, including the PRISM program's collection of phone metadata.

ANSWER: The **Guardian**
<Current Events — Gray> [Edited]

4. Eugène Ysaÿe (ee-ZYE) wrote six solo sonatas for this instrument each dedicated to virtuosos of it like George Enescu (eh-NES-koo) and Fritz Kreisler. For 10 points each:

[10] Name this instrument. Pablo de Sarasate's *Zigeunerweisen* (zi-GOI-ner-"vie"-zen) is a showpiece for this instrument.

ANSWER: **violin**

[10] *Zigeunerweisen* contains instances of the left-hand variant of this technique denoted by a plus mark above the notes. Another variant of this technique is named for Bela Bartok.

ANSWER: **pizzicato** [or **pizz**; accept left-hand **pizzicato** or Bartok **pizzicato** or snap **pizzicato**]

[10] Another example of left-hand pizzicato is in this composer's Caprice No. 24 for solo violin. This violin virtuoso supposedly sold his soul to the devil in exchange for flawless technique.

ANSWER: Niccolò **Paganini**

<Classical Music — Ma> [Edited]

5. This woman ends her stories at cliffhangers to ensure that her husband Shahryar puts off killing her until the next day. For 10 points each:

[10] Name this woman. She is the primary narrator of a collection in which Morgiana saves Ali Baba from forty thieves by pouring boiling oil on them.

ANSWER: **Scheherazade** (shuh-"HAIR"-uh-zahd)

[10] Scheherazade is the narrator of this collection, which includes "Ali Baba and the Forty Thieves." Modern versions of this collection include fantastical stories about Sinbad the Sailor and Aladdin.

ANSWER: *One **Thousand and One Nights*** [or ***Alf layla wa-layla*** or the ***Arabian Nights***]

[10] In the collection's story "The Three Apples," this ruler commands his vizier Ja'far to solve the murder of a young woman whose body was found cut up in a chest. In another story, this ruler pardons Attaf after reading his fate in a book.

ANSWER: **Harun** al-Rashid

<Short Fiction — Schwartz> [Ed. French]

6. According to Kurt Goldstein, who coined this term, "basic satisfaction" is a prerequisite for being in this state. For 10 points each:

[10] Give this psychological term for the "desire for self-fulfillment." Attaining peak experiences is generally seen as evidence for being in this state.

ANSWER: **self-actualization**

[10] Self-actualization occupies the highest level of a five-level "hierarchy of needs" which lays out motivations for human behavior and which was devised by this humanistic psychologist.

ANSWER: Abraham Harold **Maslow**

[10] This other humanistic psychologist developed a client-centered approach to therapy and the concept of unconditional positive regard, which he theorized would help build trust with the client.

ANSWER: Carl **Rogers**

<Psychology — Schwartz/Gray> [Edited]

7. People with this profession “kick [their] knees up” and “flap like a birdie” in the song “Step in Time.” For 10 points each:

[10] Name this profession. Dick van Dyke’s character sings that this profession is “as lucky can be” in a song that won the 1964 Academy Award for Best Original Song.

ANSWER: chimney-**sweep**

[10] Bert the chimney-sweep sings the song “Chim Chim Cher-ee” in this Disney musical about a magical nanny who sings “A Spoonful of Sugar” and “Supercalifragilisticexpialidocious” while looking after the Banks children.

ANSWER: **Mary Poppins**

[10] The music for *Mary Poppins* was by this pair of brothers. This duo’s other work for Disney includes the music for *Bedknobs and Broomsticks* and the song “It’s a Small World (After All).”

ANSWER: the **Sherman** Brothers [accept Richard Morton **Sherman** and Robert Bernard **Sherman**]

<Musicals — French> [Edited]

8. A specialized kind of this data structure has the properties that all children of red nodes are black and all nodes without children have equal black height. For 10 points each:

[10] Name this data structure with “red-black” and “AVL” (A-V-L) types that are self-balancing. All nodes in this type of directed acyclic graph have one incoming edge, except for one node which has none.

ANSWER: **trees** [accept red-black **trees** or AVL **trees** or Adelson-Velsky Landis **trees**; accept BUT DO NOT REVEAL binary search **trees**]

[10] Red-black and AVL trees are varieties of a kind of tree named by analogy with this algorithm. That kind of tree requires that nodes be in sorted order, which is the property named after this algorithm.

ANSWER: **binary search** [prompt on **search**]

[10] Binary search itself operates on this data structure, in which elements are laid out in contiguous memory.

Elements in this data structure can be accessed with an integer index, often in square brackets after the variable.

ANSWER: **arrays**

<Computer Science — Gray> [Edited]

9. In this play, Richard quotes from “subversive” books in his love letters to Muriel McComber, but when he can’t date her, he woos Belle instead. For 10 points each:

[10] Name this 1933 play about the Miller family’s Fourth of July. It is subtitled for “ancient days when youth was young,” and its title is a quote from the *Rubaiyat*.

ANSWER: **Ah, Wilderness!**

[10] This American author wrote the comedy *Ah Wilderness!* He also wrote *The Iceman Cometh* and *Long Day’s Journey into Night*.

ANSWER: Eugene **O’Neill**

[10] In contrast to the Millers, this central family of *Long Day’s Journey into Night* can *not* let go of the past. This family’s matriarch, Mary, is addicted to morphine.

ANSWER: the **Tyrones**

<Drama — Gray> [Ed. French]

10. The governor of California Leland Stanford was among the “Big Four,” who were the largest shareholders in this company. For 10 points each:

[10] Name this company which, unlike a counterpart, primarily used Chinese labor to build a project eastward from Sacramento, California, to Promontory Point, Utah.

ANSWER: **Central Pacific** Railroad

[10] The Union Pacific and Central Pacific companies built the two legs of this project, which Leland Stanford completed by hammering a golden spike.

ANSWER: First **Transcontinental** Railroad [or **Overland Route**]

[10] After the construction of the railroad, the Union Pacific was implicated in a scandal named for this company, which had charged extortionately high rates for railroad construction paid for by the government.

ANSWER: **Crédit Mobilier** of America

<US History — Gray> [Edited]

11. For 10 points each, answer the following about Thevenin’s (TAY-vuh-non’s) theorem:

[10] Thevenin’s theorem is used to simplify “black boxes” that represent parts of these things. These things are electrical networks that contain components such as wires and batteries.

ANSWER: electrical **circuits**

[10] Specifically, Thevenin’s theorem converts a black box into two equivalent components: a voltage source and one of these circuit components. These components’ namesake quantity is often indicated by colored bands.

ANSWER: **resistors** [accept **resistance**]

[10] Thevenin’s theorem cannot be applied to circuits containing these components, which store energy in the magnetic field when current flows through.

ANSWER: **inductors**

<Physics — Shahriar> [Ed. Gurazada]

12. An origin story attributed to this hero describes a primordial being named “Protogonos” or “Phanes” (fuh-NEEZ) who emerged from a cosmic egg. For 10 points each:

[10] Name this hero from Greek mythology. This hero charmed Charon and Cerberus as he traveled to the underworld after his wife died of a snakebite.

ANSWER: **Orpheus**

[10] Orpheus is the attributed author of a bizarre theogony that differs from traditional Greek mythology by stating that this god of wine became king of the gods after Zeus.

ANSWER: **Dionysus**

[10] The traditional Greek theogony was described in this author’s aptly-titled poem, *Theogony*. This poet also wrote *Works and Days*.

ANSWER: **Hesiod**

<Mythology — French> [Edited]

13. One song written by this poet which has been proposed as a national anthem for his country asks “Is there for honest poverty” before answering with the refrain “A Man’s A Man for A’ That.” For 10 points each:

[10] Name this poet who in another poem expressed regret that “man’s dominion / Has broken nature’s social union” after having accidentally destroyed its subject’s house.

ANSWER: Robert **Burns** [or Rabbin **Burns**]

[10] That Burns poem written in Scots is addressed to this “wee, sleekit, cowrin, tim'rous beastie” with a “pannic in thy breastie.”

ANSWER: a **mouse** [accept “To a **Mouse**”]

[10] A love poem by Burns compares his love to a “red, red” one of these flowers “newly sprung in June.” In *Romeo and Juliet*, Juliet remarks “that which we call” this flower “By any other name would smell as sweet.”

ANSWER: **roses**

<Poetry — Gray> [Ed. French]

14. This conflict was caused in part by the Doctrine of Lapse, which allowed princely states to come under British control if they had no male heir. For 10 points each:

[10] Name this large-scale rebellion of Indian soldiers against British rule. After this rebellion, Britain took direct control of India.

ANSWER: **Sepoy Mutiny** [or **First Indian War of Independence** or **Indian Insurrection** or **Indian Mutiny of 1857**; accept **Revolt** or **Rebellion** in place of Mutiny]

[10] Leaders of the Sepoy Mutiny included the last Mughal emperor Bahadur Shah Zafar and Nana Saheb, the son of this Hindu empire’s last Peshwa. This empire was founded by Shivaji and ruled most of India after the decline of the Mughals.

ANSWER: **Maratha** Empire [or **Maratha** Confederacy]

[10] Another cause of the Sepoy Mutiny was the greasing of rifle cartridges in the fat of pigs and this animal, which is considered sacred by Hindus.

ANSWER: **cows** [or **cattle**]

<British/Commonwealth History — Athreya> [Edited]

15. For 10 points each, answer the following about hydrogen bonds:

[10] Hydrogen bonds occur between a partially positive hydrogen atom on one molecule and an atom on another molecule with this type of charge. Anions have this type of charge.

ANSWER: **negative** charge [accept **minus** charge or partial **negative** charge]

[10] Hydrogen bonds are far stronger than this other class of intermolecular forces, which occur due to temporary fluctuations in the electron distribution of atoms.

ANSWER: **London** dispersion forces [or London **dispersion** forces or **instantaneous dipole-dipole** forces; prompt on **van der Waals** forces or **dipole-dipole** forces]

[10] This class of molecules cannot form hydrogen bonds with each other despite having oxygen atoms, because the oxygen atom is connected to two carbon atoms.

ANSWER: **ethers**

<Chemistry — Schwartz> [Ed. Gurazada]

16. An "Express" railway that was the first fully automated one on its continent was built for one event in this city with the theme "Man and his World." For 10 points each:

[10] Name this city. Moshe Safdie (mo-SHEH SAHF-dee) designed a "habitat" consisting of a cluster of prefabricated, modular apartments for a World's Fair hosted in this city.

ANSWER: **Montreal**

[10] The U.S. pavilion at Expo 67, now known as the "Biosphere," was designed in the shape of a geodesic dome by this architect. Carbon compounds that look like soccer balls or geodesic domes are named after this architect.

ANSWER: Buckminster **Fuller**

[10] One of Fuller's favorite phrases, "Spaceship Earth," is now the name of a geodesic dome at Epcot, which is one of four theme parks in this Orlando resort which includes the Magic Kingdom.

ANSWER: **Disney World** [or the Walt **Disney World** Resort; do NOT accept or prompt on "Disneyland"]

<Mixed/Other — Gray> [Edited]

17. This character is mocked for having a "Glove fulla vaseline." For 10 points each:

[10] Name this character. This man's wife breaks her neck and dies after she allows another character to feel her hair.

ANSWER: **Curley**

[10] Lennie accidentally kills Curley's wife in this novella. The migrant workers George and Lennie strive to own a farm and "live off the fatta the lan" in this novella by John Steinbeck.

ANSWER: ***Of Mice and Men***

[10] In *Of Mice and Men*, Lennie is most excited about tending to these animals on the farm. At the end of the novel, he hallucinates about a gigantic one of these animals telling him that he "ain't fit to lick the boots of no [one of these animals]."

ANSWER: **rabbits** [accept **hares** or **bunnies**]

<Long Fiction — Venkateswaran> [Edited]

18. Critics argue whether this painter's inclusion of five extra vertebrae in a portrait of a woman was an error or an intentional distortion. For 10 points each:

[10] Name this artist who painted many orientalist nudes, including the circular *Turkish Bath* and *La Grande Odalisque*.

ANSWER: Jean-Auguste-Dominique **Ingres** (AANG)

[10] Ingres borrowed the pose for his *La Grande Odalisque* from this other painter's *Portrait of Madame Recamier*. This teacher of Ingres is better known for paintings like *The Death of Marat* and *Napoleon Crossing the Alps*.

ANSWER: Jacques-Louis **David** (dah-VEED)

[10] Poets, philosophers, and artists surround a winged Nike crowning this person in Ingres's *Apotheosis of* [this person]. A Rembrandt painting depicts Aristotle "contemplating a bust" of this person.

ANSWER: **Homer** [or **Homeros**]

<Painting — Ma> [Edited]

19. For a complex function, the coefficients of this series can be calculated with the Cauchy integral formula. For 10 points each:

[10] Name this series, the power series representation of a function at a given point. Its n th coefficient can be expressed in terms of the function's n th derivative.

ANSWER: **Taylor** series [or **Taylor** expansion; accept **Mayclaurin** series or **Maclaurin** expansion]

[10] If a function is equal to the sum of its Taylor series, then it is said to have this property. In complex analysis, all holomorphic functions have this property.

ANSWER: **analytic** [accept word forms like **analyticity**]

[10] These functions are all analytic, because they are power series with finitely many terms. Every non-constant one of these functions has a root over the complex numbers according to the Fundamental Theorem of Algebra.

ANSWER: **polynomials**

<Math — Gurazada> [Ed. French]

20. The Schneider Doctrine, which stated that the military shouldn't involve itself in politics, aided in this leader's rise. For 10 points each:

[10] Name this quasi-Marxist leader who committed suicide at the La Moneda palace after being overthrown in 1973 in a coup (coo) led by Augusto Pinochet (PEE-no-chay).

ANSWER: Salvador **Allende** [or Salvador Guillermo **Allende** Gossens]

[10] Salvador Allende and Augusto Pinochet both led this country in the 1970s from its capital of Santiago.

ANSWER: Republic of **Chile** [or Republicá de **Chile**]

[10] Pinochet was advised by this group of laissez-faire (lay-say-fair) economists during his rule. Despite this group's advice, the copper industry in Chile remained under government control after it was nationalized under Allende.

ANSWER: **Chicago Boys**

<Latin American History — Shahriar> [Ed. Iyer]