2022 ACF Winter

Packet 7 by Cornell B, VCU A, VCU B, Georgia Tech A, West Virginia A

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Tossups

1. This character hides under the “shade” of her “tree”-like father and takes a shower in an elevator in a 2020 Matthew Aucoin (“oh-KOYN”) opera adapted from a Sarah Ruhl play. Soon after this operatic character bemoans a man’s infidelity in the aria “Che fiero momento” (“kay f’YAY-roh moh-MEN-toh”), the man asks, “Che farò senza?” (“kay FAH-roh SENT-zah”), or “what shall I do without” this character. In a duet from another opera, this character sings in tandem with a tenor or baritone playing a god who buzzes rather than sings. This character sings in joy after the “Dance of the Blessed Spirits” from the first “reform opera” by Gluck. This character disappears after Jupiter’s thunderbolt shocks her lover into looking at her in a parodic opera by Jacques Offenbach. For 10 points, what female operatic character from Greek myth is rescued by her lover Orpheus?

ANSWER: **Eurydice** [or **Euridice**; prompt on *Orfeo ed Euridice*] (Offenbach’s opera is *Orpheus in the Underworld*.)

<Other Fine Arts (Opera)>

2. With a British scientist, this mathematician names a quantity equal to the modulus of half the log of the cross-ratio, which is a metric used in non-Euclidean geometries. In an influential manifesto, this mathematician advocated the classification of geometries using their transformation groups. This creator of the Erlangen program names the sole exception to the Heawood conjecture, which can be created by identifying two pairs of opposite sides of a unit square with one pair antiparallel and the other parallel. This mathematician names a 2D manifold that [emphasize] *cannot* be embedded into 3D space, which can be formed from two cross-caps and has no well-defined inside or outside. For 10 points, gluing two Möbius strips together produces what German mathematician’s namesake “bottle”?

ANSWER: Felix **Klein** [or Christian Felix **Klein**; accept **Klein** bottle] (The first line refers to the Cayley–Klein metric.)

<Other Science>

3. In the 1960s, Melvin L. Fowler excavated one of these structures, supporting the “big bang” theory of Timothy R. Paukektat. Charles McIlvane orchestrated a hoax that some of these structures contained the “Newark Holy Stones.” The oldest of these structures may be those at Watson Brake. Over 72 of these structures were built in a medieval city that was surrounded by rings of wooden posts nicknamed “Woodhenge.” They are not found on Easter Island, but artifacts uncovered in these structures include a tablet depicting a “birdman” and implements used to play chunkey. During the Woodland Period, the Adena people built an “effigy” example of these places named for resembling a “Great Serpent.” For 10 points, the ancient city of Cahokia features what raised earthworks?

ANSWER: **mound**s [accept **tumulus** or **tumuli**; accept burial **mound**s; accept **Mound** Builders; accept Cahokia **Mound**s; accept platform **mound**s; accept effigy **mound**s or Great Serpent **Mound**; prompt on earthworks or earthen structures; prompt on burial places or tombs or graves or equivalents; prompt on pyramids or monuments or ceremonial structures or equivalents; prompt on temples] (Timothy Paukektat’s “big bang” theory refers to the rapid population growth of Cahokia.)

<American History>

4. This character exclaims “have mercy, Jesus!” upon waking from a dream in which he is told that he will “fall in height of all his pride.” This character is cursed to “take deep traitors for thy dearest friends” by a woman who calls him an “elvish-mark’d, abortive, rooting hog.” A prophecy concerning the letter G convinces this character to murder his brother, who later appears as one of several ghosts who tell this character to “despair and die!” This character decides, “I am determined to prove a villain” in resolving to imprison the Duke of Clarence in a speech that describes a “glorious summer” and opens “now is the winter of our discontent.” For 10 points, name this hunchbacked Shakespeare character who dies at the Battle of Bosworth Field after proclaiming “my kingdom for a horse!”

ANSWER: **Richard III** [or Richard, Duke of **Gloucester**; prompt on Richard]

<British Literature>

5. Nikolai Kapustin’s piece titled for this musical form “in the Old Style” combines it with jazz improvisation. The opening prelude of a piece in this form begins with a rising G major arpeggio, while the last piece of this form by the same composer is meant to be played on an unusual five-stringed instrument. August Wilhelmj (“vill-HELL-mee”) arranged a movement from an orchestral piece in this form for his “Air on the G String.” Baroque pieces in this form typically followed a slow French overture with an allemande, courante, sarabande, and gigue (“ZHEEG”) as their four dances. Yo-Yo Ma won a Grammy for recording Bach’s six pieces in this form for cello. For 10 points, name this musical form that consists of an ordered set of instrumental pieces.

ANSWER: **suite**s [accept specific types of **suite**s, such as cello **suite**s or Baroque **suite**s or **suite**s de danse; accept Bach’s Cello **Suite**s; accept ***Suite*** *in the Old Style*]

<Classical Music>

6. This modern-day country’s Habr Yunis state was led by its Isaaq people. A colony in this country signed treaties with the Majerteen and Hobyo and with the Hiraab and Geledi based around the Shebelle and Jubba rivers, which were engineered by the Ajuran Empire. This country’s port of Zeila was controlled by coastal clans ruled by the Ifat and Adal sultanates. In this country, Sheikh Madar founded Hargeisa (“har-GAY-suh”), which replaced Berbera as the capital of a British protectorate whose Dervish movement was led by Mohammed Abdile Hassan, the “Mad Mullah.” Yemen obtained camel meat from this country, which [emphasize] *lost* the Ogaden to Menelik II. An Italian colony in this country controlled Puntland, which has arrested modern pirates in the Gulf of Aden. For 10 points, what Islamic country in the Horn of Africa contains Mogadishu?

ANSWER: **Somalia** [or Federal Republic of **Somalia** or Jamhuuriyadda Federaalka **Soomaaliya** or Jumhūriyah as-**Sūmāl** al-Fīdirāliyah; accept **Somaliland** or Republic of **Somaliland** or Jamhuuriyadda **Soomaaliland** or Jumhūrīyat **Ṣūmālīlānd**; accept British **Somaliland** or **Somaliland** Protectorate or Dhulka **Soomaalida** ee Biritishka; accept Italian **Somaliland** or **Somalia** Italiana or Dhulka Talyaaniga ee **Soomaalida** or Al-**Sumal** Al-Italiy]

<World History>

7. In 1980, Sumio Iijima discovered a material formed from this element whose main application is in supercapacitors, and which is named for its “onion-like” structure. This element forms a material that doesn’t become crystalline at high temperatures and may be used to coat electrodes, which is known as this element’s “glassy” form. A cage-like molecule composed of hydrogen and this element that resembles the repeating network it forms in certain minerals is called adamantane. This element forms a material whose “slippery” feel, or superlubricity, is caused by the sliding of sheets of it that are one atom thick. Sixty atoms of this element form its allotrope buckminsterfullerene. For 10 points, name this element whose allotropes include graphene and diamond.

ANSWER: **carbon** [or **C**; accept **diamond** or **graphene** or **buckminsterfullerene** until each is read; accept **C**60 (“C-sixty”); accept glassy **carbon** or vitreous **carbon**; accept onion-like **carbon** or **carbon** onions]

<Chemistry>

8. As a man goes into a trance in a play, a woman describes versions of this thing “of war,” “of water,” and “of indecision.” Some women say “we knew you for a man of honor” after a play’s protagonist delivers a monologue that claims “Memory is the Master” of this thing. In that play, as a character dances towards a marketplace, he chants a story in which this thing “came calling” for a proverbial animal called the “Not-I bird.” This is the first title word of a play in which Amusa is offended by a man wearing a ritual mask to a party. This word begins the title of a play in which Simon Pilkings stops a ritual form of it being performed by Elesin Oba. For 10 points, what concept titles a Wole Soyinka play alongside “the King’s Horseman”?

ANSWER: **death** [accept ***Death*** *and the King’s Horseman*; prompt on ritual suicide or killing oneself or similar]

<World Literature>

9. In a myth from this country, the sun was created when the yolk of an egg broken by Brolga the bird bursts into flames, inspiring a good spirit to recreate the event each day. In a story from this country, Nabunum the eel made Tiddalik the frog laugh, releasing all the water in the world. Inhabitants of this country believe that culture heroes created its natural paths during an ethereal period sometimes referred to as jukurrpa. Rivers that change course in this country leave behind lakes inhabited by amphibious monsters called bunyips. A recurring creature in mythologies from this country created its Songlines while slithering between water holes. For 10 points, the Rainbow Serpent and Dreamtime are common myth motifs among what country’s Aboriginal peoples?

ANSWER: **Australia** [or Commonwealth of **Australia**; accept **Aboriginal country** or **Aboriginal land**s or equivalents until “Aboriginal” is read]

<Mythology>

10. Ray Monk called this thinker “the Spirit of Solitude” in a biography based in part on this thinker’s collected writings held at McMaster University. A paper by this thinker compared classifying substances to sorting a letter by alphabetical or geographical order in a postal directory analogy that rejects dualism. Contra Alexius Meinong, an essay by this thinker argues that phrases can mean nothing by themselves, yet still contribute to a statement’s meaning, such as in the sentence “the present king of France is bald.” This author of “On Denoting” critiqued the existence of God by positing a too-small-to-see teapot floating in space in his book *Why I Am Not a Christian*. For 10 points, name this British philosopher who, with Alfred Whitehead, wrote *Principia Mathematica*.

ANSWER: Bertrand **Russell** [or Bertrand Arthur William **Russell**, 3rd Earl Russell]

<Philosophy>

11. In 2013, a former aide to a member of this family illegally auctioned the Claude Monet (“MOH-nay”) painting *Le Bassin aux Nymphéas* (“luh bass-AN oh NAM-fay-AH”). In 2011, two members of this family were given what is believed to be the largest contempt fine in history by the Hawaiʻi District Court. A member of this family was popularly claimed to possess the “Tallano gold” during a 2022 election that resulted in him moving to the Malacañang (“mah-lah-con-YAHNG”) Palace. In a 2022 presidential election, a member of this family who heads the PFP party defeated Leni Robredo (“roh-BRAY-doh”) and the boxer Manny Pacquiao (“PACK-ee-ow”) alongside his running mate, the daughter of former president Rodrigo Duterte (“doo-TAIR-tay”). For 10 points, what family includes the current president “Bongbong,” the former first lady Imelda, and the former president Ferdinand, all from the Philippines?

ANSWER: **Marcos** family [accept **Romualdez** family; accept Ferdinand **Marcos** or Ferdinand Emmanuel Edralin **Marcos**; accept Imelda **Marcos** or Imelda Romualdez **Marcos** or Imelda Remedios Visitacion Trinidad **Romualdez**; accept Bongbong **Marcos** or Ferdinand Romualdez **Marcos**]

<Current Events>

12. This person was able to convince the cannibal Kauda Bheel to stop eating men and convert. An inscription on the tomb of Bahlul serves as evidence that this person reached Baghdad on one of his five *udasis* (“oo-DAH-sees”). This person went missing and remained in a trance for three days after being offered a cup to drink from by God. This person responded that God is everywhere upon being asked why his feet pointed toward the Ka’aba while sleeping. This person’s biographies are known as *Janamsakhi*. This person’s successor, Angad, created the Gurmukhī script. This author of the Mūl Mantar founded the institution of the free kitchen, or langar. This figure’s first words after his enlightenment were “there is no Hindu and no Musalman.” For 10 points, name this first of ten gurus, the founder of Sikhism.

ANSWER: Guru **Nānak** [or Bābā **Nānak**; or Guru **Nānak** Dev Ji]

<Religion>

13. A novel by this author describes entities that “like dreams, are made of desires and fears, even if the thread of their discourse is secret, their rules are absurd, their perspectives deceitful.” In a story by this author, the narrator and Lieutenant Fenimore both love Ursula, even though their trajectories cannot cross. This author described prehistoric mankind using ladders to collect “milk” from a celestial object until it is too far away from Earth’s surface in the story “The Distance of the Moon.” Isidora, Diomira, and Ersilia are among the title places of a novel by this author in which Marco Polo tells Kublai Khan about his travels. For 10 points, name this Italian author of *Cosmicomics*, *Invisible Cities*, and the second-person novel *If on a Winter’s Night a Traveler*.

ANSWER: Italo **Calvino** [or Italo Giovanni **Calvino** Mameli; prompt on Mameli]

<European Literature>

14. A supposedly haunted painting from this country that depicts polar bears tearing at bones and sailcloth is covered during a university’s exams. T. S. R. Boase argues that French artist Claude-Joseph Vernet (“clohd-zho-ZEFF vair-NAY”) influenced this country’s paintings of marine disasters, such as one titled for Thomas à Kempis’s phrase “Man proposes, God disposes.” In a painting from this country, a moon in an otherwise dark, cloudy sky illuminates the title *Fishermen at Sea*. A poem that ends “where is thy market now?” was displayed with a painting from this country that includes a red sunset and depicts an incident in which 132 slaves were thrown overboard. A steamer tows one of this country’s naval ships in the painting *The Fighting Temeraire*. For 10 points, name this home country of Edwin Landseer and J. M. W. Turner.

ANSWER: **England** [accept **UK** or **United Kingdom**; accept Great **Britain**]

<Painting & Sculpture>

15. This thinker and an alphabetically later colleague wrote a text that opens by describing the “delegates of a hundred nations” at the United Nations, in a section titled “The World Is Shrinking.” This was the alphabetically prior author of a cartoon-illustrated pamphlet designed to counteract racial tension, along with Gene Weltfish. This thinker used their mentor’s field notes on the Kwakiutl (“kwah-kee-OO-tull”) to compare them with the Dobu and Zuni in a book that defines its title concept as “personality writ large.” While consulting for the Office of War Information, this co-author of *The Races of Mankind* conducted an example of “anthropology at a distance” that contrasts guilt and shame cultures. For 10 points, what anthropologist wrote *Patterns of Culture* and a study of Japanese society titled *The Chrysanthemum and the Sword*?

ANSWER: Ruth **Benedict** [or Ruth Fulton **Benedict**]

<Social Science>

16. This practice was mandated by brigades led by Oswaldo Cruz (“ohz-VOW-doo KROOCE”), sparking a 1904 revolt in Rio de Janeiro. Mexican orphans disseminated this practice in the Spanish Empire’s 1803 Balmis (“bahl-MEECE”) expedition. The death of 72 infants in the “Lübeck disaster” slowed the adoption of a form of this practice invented by Calmette (“kahl-MET”) and Guérin (“gay-RON”). Circassian women may have introduced a precursor of this practice to the Ottoman Empire, whence it was popularized by Lady Mary Wortley Montagu. The enslaved African Onesimus taught a precursor of this practice to Cotton Mather. The March of Dimes funded oral and inactivated types of this practice developed by Albert Sabin and Jonas Salk. Healthy milkmaids inspired this practice’s 1796 invention by Edward Jenner. For 10 points, Louis Pasteur enabled what practice for anthrax and rabies?

ANSWER: **vaccination** [or word forms like **vaccine**s or getting **vaccinated**; accept **inoculation** or **immunization** or **variolation** or word forms; accept **shot**s; accept **vaccination** for specific diseases like polio or smallpox or tuberculosis; accept BCG **vaccine**; accept **Vaccine** Revolt or Revolta da **Vacina**; or **vacuna**; prompt on cure of a disease or healthcare or preventative medicine or treatment or prophylaxis or similar answers]

<Other History>

17. Under electron microscopy, this substance forms gamma particles that are contained in beta granules, which then form rosette-shaped alpha granules. A small amount of this substance is used as an inert carrier to stain the pellet white when using ethanol to precipitate DNA. This substance no longer stains a characteristic magenta color with P-A-S after being treated with diastase (“DAI-uh-stase”). This substance is synthesized from UDP-conjugated monomers. A debranching enzyme cleaves the alpha-1,6 linkages in this substance and a phosphorylase breaks down its alpha-1,4 linkages, which resemble those in the straight chain of amylopectin. Epinephrine triggers the breakdown of this substance in skeletal muscle, which releases glucose-6-phosphate for use in glycolysis. For 10 points, name this polymer of glucose also found in the liver, the animal equivalent to starch.

ANSWER: **glycogen** [accept animal **starch** until read; accept **glycogen** phosphorylase; prompt on carbohydrates or polysaccharides]

<Biology>

18. To celebrate the engagement of his son, Charles the Wise was given an illuminated history of these people known as the *Chronicon Pictum*. These people trace their origins to a ruler who drank the commingled blood of the leaders of tribes known as the “ten arrows.” The Holy Lance was credited with helping a ruler defeat a siege by these people near present-day Augsburg. After defeating Luitpold at the Battle of Pressburg, these people conquered Pannonia. Michael VII Doukas presented these people with a crown that was used by Sylvester II to crown their king in 1000 CE. Otto I stopped the westward expansion of these people at the Battle of Lechfeld. For 10 points, name this ethnic group ruled by the Árpád dynasty, which founded a country whose modern capital is Budapest.

ANSWER: **Magyar**s [or **Hungarian**s; or **magyar**ok; or **Ungri** or **Ungari** or **Ungari**; prompt on Ugrian peoples or Yugrai]

<European History>

19. A nondimensionalized version of this quantity equals two over three times the d’Alembert (“DAL-om-bair”) parameter by the Darwin–Radau (“RAD-ow”) equation. This is the most common quantity measured using a three-string torsional, or “trifilar” (“try-fai-lar”), pendulum. Values for this quantity correspond to the eigenvalues of a symmetric tensor that appear in the Euler (“OY-lur”) equations. The middle of three values for this quantity for a body corresponds to instability by the tennis racket theorem. Jakob (“YAH-kob”) Steiner sometimes names a theorem that evaluates this quantity about a parallel axis, which involves adding a factor of “mass times distance squared.” For 10 points, angular momentum equals angular velocity times what rotational analog of mass?

ANSWER: **moment of inertia** [or **moment of inertia** factor; accept **MOI**; prompt on inertia tensor by asking “what quantities are its eigenvalues?”]

<Physics>

20. This character repeatedly says “a hot thing” in a stream-of-consciousness chapter that begins, “I am [this character] and she is mine.” Three people returning from a carnival discover this character sitting on a stump, wearing new shoes. This character disappears after a group of women sing a prayer outside her house, leading her companion to lament that her “best thing” has left her. This character dies after a woman sees a hat belonging to a schoolteacher. The opening lines of a novel note how the “venom” of this character makes a house feel “spiteful.” As a baby, this character is killed with a handsaw before Stamp Paid saves her sister Denver. For 10 points, name this character who returns to 124 Bluestone Road to haunt her mother Sethe, the title character of a novel by Toni Morrison.

ANSWER: **Beloved** [accept the ghost from ***Beloved***; prompt on Sethe’s baby; prompt on the ghost or spirit or equivalents]

<American Literature>

TB. A neo-Vedānta-inspired book by this author consists of 27 short chapters that list Western and Eastern religious quotations on different spiritual topics. This author recalls viewing art books at the World’s Biggest Drug Store in a book titled for a line from *The Marriage of Heaven and Hell*. A novel by this author describes a media frenzy that leads to a massive substance-induced orgy in a lighthouse. This author described his mescaline use in a book that inspired Jim Morrison to name his band “The Doors.” In a novel by this author, a “Resident World Controller” leads a society that uses a drug named for a Vedic ritual drink to achieve happiness, which frustrates Bernard Marx. For 10 points, name this author who created John the Savage in his novel *Brave New World*.  
ANSWER: Aldous **Huxley** [or Aldous Leonard **Huxley**] (The book in the first sentence is *The Perennial Philosophy*. The other unnamed book is *The Doors of Perception*.)

<TB (British Literature)>

Bonuses

1. An essay on writing advice by this man titled “Letter to a Young Contributor” led to his years-long correspondence with an author who signed her letters as “Your Gnome.” For 10 points each:

[10h] Name this author and minister, who in 1862 received four poems and an unsigned letter that asked him, “are you too deeply occupied to say if my Verse is alive?”

ANSWER: Thomas **Higginson** [or Thomas Wentworth **Higginson**]

[10e] Higginson eventually learned that his pen pal was this reclusive “Belle of Amherst,” who penned poems such as “Because I could not stop for Death—.”

ANSWER: Emily **Dickinson** [or Emily Elizabeth **Dickinson**]

[10m] An essay by Higginson on Nat Turner’s rebellion may have inspired a Dickinson poem titled for this sort of object, which describes “the power to kill / without the power to die” and begins, “my life had stood —” like one of these objects.

ANSWER: loaded **gun**s [accept “My life had stood — a loaded **gun**”; prompt on firearms or equivalents]

<American Literature>

2. Morgan Shuster wrote “The Strangling of [this country]” after Russia forced him out of managing its finances for the Second Majlis in the years after the British got oil rights in the D’Arcy concession. For 10 points each:

[10e] Name this country whose oil industry was abortively nationalized twice, under Reza Khan and Mohammad Mosaddegh (“moh-sad-DAYG”), before Ayatollah Khomeini (“khoh-MAY-nee”) succeeded after a 1979 revolution.

ANSWER: **Iran** [accept **Persia**; accept Islamic Republic of **Iran** or Jomhuri-ye Eslâmi-ye **Irân**; accept Imperial State of **Iran** or Kešvar-e Šâhanšâhi-ye **Irân**; accept **Qajar** empire or Sublime State of **Persia** or Dowlat-e 'Aliyye-ye **Irân** or **Guarded Domains**; accept 1979 **Iranian** Revolution or Enqelâb-e **Irân**; accept Anglo-**Persian** Oil Company; accept *The Strangling of* ***Persia***]

[10h] Iran’s early oil industry was based around the Ābādān (“ah-bah-DON”) refinery in this southwestern province. Arab separatists like the DRFLA led a 1979 insurgency in this province, which was the main front of the Iran–Iraq War.

ANSWER: **Khuzestan** [or **Khuzestan** Province or Ostān-e **Xūzestān**; accept 1979 **Khuzestan** insurgency; prompt on Arabistan] (DRFLA stands for Democratic Revolutionary Front for the Liberation of Arabistan.)

[10m] During this conflict, the Trans-Iranian Railway supplied Khuzestan’s oil to the “Persian Corridor” and the Arab League was founded. Iran hosted the “Big Three” during this conflict, whose Levant Crisis led to Syrian independence.

ANSWER: **World War II** [or the **Second World War** or **WWII** or **WW2**] (The “Big Three” were Stalin, Churchill, and FDR, who attended the Tehran Conference.)

<World History>

3. In 2009, this telescope was used to discover what is thought to be the largest ring of Saturn. For 10 points each:

[10h] Name this telescope that was retired in 2020, over a decade after it ran out of liquid helium. It was the first telescope to be launched in an Earth-trailing orbit, from which it observed the Double Helix Nebula.

ANSWER: **Spitzer** Space Telescope [or **SIRTF**; accept, but DO NOT OTHERWISE REVEAL, **Space Infrared Telescope Facility**]

[10e] The Spitzer Space Telescope operated in this region of the electromagnetic spectrum, which lies between microwaves and visible light.

ANSWER: **infrared** light [or **IR**]

[10m] This astronomer discovered infrared radiation by refracting sunlight. In 1781, this astronomer's sister Caroline assisted him in the discovery of a body that has a 98-degree axial tilt.

ANSWER: William **Herschel** [or Frederick William **Herschel** or Freidrich Wilhelm **Herschel**] (The body is Uranus.)

<Other Science>

4. The *Vishnu Purāṇa* relates how this event occurred after the sage Durvāsā (“dur-VAH-sah”) enervated all the devas (“DAY-vuhs”) when Indra’s mount threw Durvāsā’s lucky garland on the ground. For 10 points each:

[10m] Name this event in which the devas and asuras (“UH-soo-ruhs”) worked together to obtain the nectar of immortality, amṛita (“UM-rih-tuh”). Mount Mandāra was used as the rod for this event and the nāga Vāsuki was used as the rope.

ANSWER: **churn**ing of the **ocean** of milk [or **churn**ing of the milky **ocean**; or **churn**ing of the **sea** of milk; or **Samudra Manthana**; prompt on churning]

[10e] This deity drank the poison halāhala that was released during the churning, leading to his throat turning blue. This deity is the destroyer god of the Hindu Trimūrti.

ANSWER: **Shiv**a [or **Śiv**a; or **Nīlakaṇth**a or **Neelkanth**; accept **Mahādev**a]

[10h] The churning caused the emergence of many beings, such as these female celestial nymphs who include Urvashī (“OOR-vuh-shee”) and Rambhā (“RUM-bah”). Many of these beings married the Gandharvas (“GUND-hur-vuhs”) as dancers in the court of Indra.

ANSWER: **apsarā**s (“UP-suh-rahs”) [or **accharā**; or **Bidadari** or **Biraddali**]

<Mythology>

5. A 2022 exhibit at the Met displays sculptures by this artist alongside contemporary sculptures that he inspired. For 10 points each:

[10h] Name this sculptor who depicted a Black woman struggling against the ropes that bind her in his piece *Why Born Enslaved?* This male French artist depicted Bacchus and his followers in the sculpture *The Dance*.

ANSWER: Jean-Baptiste **Carpeaux** (“kar-POH”)

[10e] Carpeaux’s *Why Born Enslaved?* inspired a sculpture by Kehinde Wiley of a man wearing a Lakers jersey under a toga to imitate classical sculptures of this type. Sculptures of this type depict only the head and shoulders of a person.

ANSWER: **bust**s

[10m] Carpeaux also created a sculpture of Ugolino, who ate his children while imprisoned, that influenced part of this artwork by a different artist. This artwork also includes a sculpture of a man embracing a woman, titled *Fugit Amor*.

ANSWER: *The* ***Gates of Hell*** [or *La* ***Porte de l’Enfer***] (by Auguste Rodin)

<Painting & Sculpture>

6. This philosopher used the term “Geist” to describe the large-scale “spirits” running through different societies throughout history. For 10 points each:

[10e] Name this German philosopher who is credited with using a dialectic method in books like *Phenomenology of Spirit*.

ANSWER: Georg Wilhelm Friedrich **Hegel** [or G. W. F. **Hegel**]

[10m] Hegel propounded an “absolute” form of this position, which broadly holds that all of reality is based on mental conceptions. Hegel and others such as Johann Fichte (“FICK-tuh”) were part of this position’s “German” school.

ANSWER: **ideal**ism [or **Idealism**us; accept German **ideal**ism or Deutscher **Idealism**us; accept absolute **ideal**ism or Absoluter **Idealism**us]

[10h] Hegel claimed that all individuals have an “abstract” form of this concept defined in relation to society. Fichte argued that consciousness is socially constructed in a book on the “Foundations of” this concept.

ANSWER: **right** [or **right**s; or **Recht**e or **Recht**s; accept abstract **right** or abstraktes **Recht**; accept natural **right** or Natur**recht**s; accept *Elements of the Philosophy of* ***Right*** or *Philosophy of* ***Right*** or *Grundlinien der Philosophie des* ***Recht****s*; accept *Foundations of Natural* ***Right*** or *Grundlagen des Natur****recht****s nach Prinzipien der Wissenschaftslehre*]

<Philosophy>

7. In a novel, people with this condition include the girl with the dark glasses and the car thief. For 10 points each:

[10m] Name this condition whose early victims are placed in an asylum. A woman pretends to have this condition in order to stay with her afflicted husband and later helps those victims escape.

ANSWER: **blind**ness [or word forms; or equivalents such as **vision** **impair**ment; or **cegueira** or **cego** or **cega**; prompt on “the white sickness” or “mal-branco”]

[10h] In the novel *Blindness*, the doctor’s wife starts crying while lost in the rain but is comforted by this character, who licks her face and joins her group. This character kills and eats a hen that belongs to an old woman.

ANSWER: the **dog of tears** [or **Constant** or **Constante**; or o **cachorro das lágrimas**; prompt on dog or cachorro]

[10e] This Portuguese author used his dog Camões (“cah-MOYSH”) as an inspiration for the dog of tears in his novel *Blindness*.

ANSWER: José **Saramago** [or José de Sousa **Saramago**]

<European Literature>

8. Niels Bohr persisted in doubting the existence of these particles even after the experimental confirmation of Compton scattering, in which these particles scatter off an electron. For 10 points each:

[10e] Name these massless particles, which are the quanta of light.

ANSWER: **photon**s

[10h] In 1921, this Dutch scientist was admitted to the hospital after days of loud arguments with Bohr about photons. This scientist’s theorem states that any energy level of a time reversal-symmetric, half-integer spin system is at least doubly degenerate.

ANSWER: Hans **Kramers** [or Hendrik Anthony **Kramers**; accept **Kramers**’ degeneracy theorem]

[10m] The sole equation in Bohr, Kramers, and John Slater’s ill-fated paper opposing the existence of photons involved this constant, which is the product of momentum and the de Broglie (“broy”) wavelength.

ANSWER: **Planck**’s constant [or **h**]

<Physics>

9. Answer the following about emigration from the Eastern Bloc, for 10 points each.

[10e] To prevent East Germans from leaving the capital city, Walter Ulbricht ordered the construction of this structure, whose crossing points included the infamous Checkpoint Charlie.

ANSWER: **Berlin Wall** [or **Berliner Mauer**; prompt on Wall or Mauer]

[10m] A series of 1975 accords signed in this country’s capital eased Eastern Bloc immigration policies during a détente in US-Soviet relations. This country continued a policy of “active neutrality” under Urho Kekkonen.

ANSWER: **Finland** [or **Suomi**; or Republic of **Finland** or **Suomen** tasavalta or Republiken **Finland**] (The accords were the Helsinki Accords.)

[10h] This was the name given to Soviet Jews who were denied permission to emigrate abroad. Two of these people, Sylva Zalmanson and Eduard Kuznetsov, attempted to hijack a plane in order to escape the Soviet Union.

ANSWER: **refusenik**s [or **otkazniki**]

<European History>

10. Answer the following about genetic linkage, for 10 points each.

[10e] This scientist’s law of independent assortment is violated by chromosomal linkage. This monk’s experiments with pea plants form the basis of modern genetics.

ANSWER: Gregor **Mendel** [or Gregor Johann **Mendel**; or Řehoř Jan **Mendel**]

[10m] The unit of map distance used to make linkage maps is named for this scientist, who carried out early genetic experiments on fruit flies.

ANSWER: Thomas Hunt **Morgan** [accept centi**morgan**]

[10h] In this phenomenon that sometimes confounds linkage analysis, a recombination event on one part of a chromosome suppresses other recombination events nearby.

ANSWER: genetic **interference** [or crossover **interference**]

<Biology>

11. A character visiting this place is let down to discover that a mysterious set of apartments do not contain the corpse of her lover’s mother. For 10 points each:

[10m] Name this estate owned by the Tilney family, which Catherine Morland visits after bonding with her friend Isabella Thorpe over Gothic novels.

ANSWER: **Northanger Abbey**

[10h] Although it spoofs the Gothic genre, Jane Austen’s *Northanger Abbey* praises novels as a form, citing this author’s novels *Cecilia* and *Camilla*. This author also wrote *Evelina*.

ANSWER: Frances **Burney** [or Fanny **Burney**; accept Madame Frances **D’Arblay**]

[10e] At the end of Burney’s *Cecilia*, a character credits the various miseries of the novel to these two concepts, which Austen borrowed to title her novel about Elizabeth Bennet and Mr. Darcy.

ANSWER: **pride** AND **prejudice** [accept in either order; accept ***Pride*** *and* ***Prejudice***]

<British Literature>

12. This suite incorporates the “Dies irae” motif in one of its movements to suggest the arrival of death. For 10 points each:

[10e] Name this astrology-inspired suite by Gustav Holst.

ANSWER: *The* ***Planets***

[10h] A movement of *The Planets* opens with a theme of major seconds that imitates one of these objects. Zoltán Kodály’s (“KOH-dai’s”) *Háry János* (“HAR-ee YAH-nohsh”) suite includes a movement about a Viennese one of these objects.

ANSWER: **clock**s [or musical **clock**s; or **harangjáték**; accept “Viennese Musical **Clock**” or “Bécsi **harangjáték**”]

[10m] The “Dies irae” melody and opening clock theme suggest the passage of time and late stages of life in this movement of *The Planets*, which Holst called his favorite. This movement opens with a quiet adagio and uses minimal percussion before climactic tubular bells.

ANSWER: “**Saturn**” [or “**Saturn**, the Bringer of Old Age”]

<Classical Music>

13. Dialectical Behavioral Therapy, or DBT, is used to treat a wide array of mental health conditions. For 10 points each:

[10m] DBT was the first therapeutic treatment to be experimentally demonstrated as effective for one of this group of disorders. This type of disorder comes in three clusters and includes types such as “schizoid” and “avoidant.”

ANSWER: **personality** disorders [accept schizoid **personality** disorder; accept avoidant **personality** disorder; accept, BUT DO NOT OTHERWISE REVEAL, borderline **personality** disorder; prompt on, BUT DO NOT OTHERWISE REVEAL, BPD by asking “what does that stand for?”]

[10h] DBT is primarily used to treat this Cluster B personality disorder, whose name was coined by Adolf Stern. People with this disorder often perform dangerous acts and have a fear of abandonment that leads to unstable relationships.

ANSWER: **borderline** personality disorder [or **BPD**]

[10e] Borderline personality disorder, or BPD, should not be confused with this mood disorder that is also treated with DBT. This disorder is characterized by manic and depressive episodes.

ANSWER: **bipolar** disorder [or **bipolar** affective disorder or **BPAD**; prompt on mania or manic syndrome; prompt on manic depressive disorder or manic depression by asking “what is its current name?”; reject “depression”]

<Social Science>

14. In 1980, Lois Gibbs held two officials from this organization hostage in order to attract attention to a crisis in her neighborhood. For 10 points each:

[10m] Name this organization that started to create Superfund sites after protests at Love Canal came to national attention.

ANSWER: **EPA** [or United States **Environmental Protection Agency**]

[10e] The EPA’s Superfund program was established under this president, who gave the “Crisis of Confidence” speech to address Americans’ energy use in 1979.

ANSWER: Jimmy **Carter** [or James Earl **Carter** Jr.]

[10h] One of the earliest Superfund sites was an abandoned town in Missouri whose name contains “Times” followed by this word. This word follows “Bombay” in the name of a California town that was abandoned due to environmental degradation.

ANSWER: **beach** [accept Bombay **Beach**; accept Times **Beach**] (Bombay Beach was a resort town on the Salton Sea.)

<American History>

15. Raju carries out a fast in order to stop a famine in this town in the novel *The Guide*. For 10 points each:

[10h] Name this town where R. K. Narayan (“nah-RAH-yun”) set most of his fiction, including his novel *The Painter of Signs*.

ANSWER: **Malgudi** (“MAHL-goo-dee”)

[10e] Narayan’s follow-up to *The Painter of Signs* is told in the first person by one of these animals, who is taken to a circus in Malgudi. In *Life of Pi*, Pi is stranded on a boat with one of these large predators named Richard Parker.

ANSWER: **tiger**s [or *Panthera* ***tigris***; accept *A* ***Tiger*** *for Malgudi*; prompt on felines or felids or big cats or *Panthera*]

[10m] Upon visiting India, this author wrote that he found it “cruel and overwhelming” compared to Malgudi. This author himself wrote a 1961 novel about a man who works as a painter of signs and marries into the Tulsi family.

ANSWER: V. S. **Naipaul** [or Vidiadhar Surajprasad **Naipaul**] (The unnamed novel is *A House for Mr. Biswas*.)

<World Literature>

16. In this technique, the formal potential of a reversible one-electron transfer can be calculated by averaging the potentials corresponding to oxidation and reduction peaks. For 10 points each:

[10h] Name this technique whose “cyclic” type can be used to analyze redox potentials by scanning back and forth across a potential range to produce characteristic “duck-shaped” graphs.

ANSWER: **voltammetry** [accept cyclic **voltammetry** or **CV**]

[10e] Rising scans in cyclic voltammetry can measure oxidation potentials, which occur at this type of electrode. One of them is paired with a cathode in typical electrochemical cells.

ANSWER: **anode** [prompt on electrode or electrical conductors]

[10m] In electrochemistry, the equations for redox reactions at the anode and cathode are often expressed as a pair of these reactions, one to describe oxidation and one to describe reduction.

ANSWER: **half**-reactions [or **half**-equations]

<Chemistry>

17. A popular chéngyǔ (“chung-eww”) idiom sums up the 4th century as this many “barbarians” “throwing China into chaos” by founding the Sixteen Kingdoms during the Jìn dynasty. For 10 points each:

[10m] Give this traditional number of dynasties that later arose alongside “ten kingdoms” between the Táng and Sòng. The “Celestial Masters” led a Daoist separatist movement named for this many “pecks of rice.”

ANSWER: **five** [or **wǔ**; accept Way of the **Five** Pecks of Rice or **Wǔ** Dǒu Mǐ Dào; accept **Five** Dynasties and Ten Kingdoms period or **Wǔ** dài shí guó; accept **Five** Barbarians or **Wǔ** Hú or **Wǔ** Hú luàn Huá]

[10e] This region’s people may descend from two of the “Five Barbarians,” the Qiāng (“chahng”) and Dī. Under Songtsen Gampo, this Himalayan region adopted a namesake arm of Buddhism centuries before the first Dalai Lama.

ANSWER: **Tibet** [or **Böd** or Xī**zàng**; accept **Tibetan**s or **Bod** pa or **Bö** pa; accept **Tibetan** Empire or **Bod** chen po or Tǔ**bō**; accept **Tibetan** Buddhism; accept **Tibetan** Plateau or **Bod** sa mtho or Qīng–**Zàng** Gāoyuán]

[10h] Another of the “Five Barbarians,” the Xiānbēi (“sh’yen-bay”), founded Tǔyùhún (“too-eww-hwun”), which the Tibetan empire conquered with these Indo-European people’s Tarim Basin oasis states of Kucha, Khotan, and Karasahr.

ANSWER: **Tocharian**s (“toh-CAR-ee-uns”) [or **Tókharoi**; accept **Tocharian** languages; accept **Agnean** or **Arśi**; accept **Kuchean** or **Kuči**; prompt on Wūsūn] (The Four Garrisons of Ānxī controlled those cities when Tibet conquered them.)

<Other History>

18. Answer the following about everyday Catholic devotional items, for 10 points each.

[10e] Catholics may wear this symbol on a necklace. Some Protestants believe that this symbol violates the commandment that prohibits graven images, so they wear empty crosses instead of this depiction of Jesus on the cross.

ANSWER: **crucifix** [prompt on crosses]

[10m] Some Catholics keep little statues depicting this patron saint of travelers in their cars, although this saint’s feast day was removed from the universal Catholic calendar due to his lack of historicity.

ANSWER: Saint **Christopher** [or Sanctus **Christophorus** or **Theophorus** or Ágios **Christóforos**]

[10h] Laypeople may wear “devotional” forms of these items that consist of two rectangles connected by string that hang on the chest and back. The larger form of these garments is a piece of cloth worn by monks.

ANSWER: **scapular**s [accept devotional **scapular**; accept monastic **scapular**]

<Religion>

19. This city’s influential transit-oriented development plan began with the 1974 implementation of a bus rapid transit system called the Rede Integrada de Transporte (“HAY-jee een-teh-GRAH-duh jee trans-POR-chee”). For 10 points each:

[10h] The mayor Jaime (“ZHAI-mee”) Lerner conducted pioneering urban planning in what city, the capital of the state of Paraná (“pah-rah-NAH”)?

ANSWER: **Curitiba** (“koo-ree-CHEE-bah”)

[10e] Curitiba (“koo-ree-CHEE-bah”) has been described as the “green capital” of this country, whose most populous city is São Paulo (“sao POW-loo”).

ANSWER: **Brazil** [or **Brasil**; or Federative Republic of **Brazil** or República Federativa do **Brasil**]

[10m] Curitiba lies near the source of this river, whose namesake “Falls” on the border between Brazil and Argentina form the largest waterfall system in the world.

ANSWER: **Iguazú** (“eeg-wah-SOO”) River [or **Iguaçu** River or Rio **Iguassu** or **Yguasu** River; accept **Iguazú** Falls or **Iguaçu** Falls or Cataratas del **Iguazú** or Cataratas do **Iguaçu** or Chororō **Yguasu**]

<Geography>

20. Competitions for this dance exhibit signature styles of Greek organizations at historically Black colleges and universities, as depicted in the film *Stomp the Yard*. For 10 points each:

[10m] Name this Black dance style that blends aspects of forms like tap and break. The taps of a pair of dancing twins are featured on several tracks of a 2022 rap album titled “Mr. Morale and the Big” practitioners of this style.

ANSWER: **step**ping [or **step**-dancing; accept *Mr. Morale and the Big* ***Stepper****s*; reject “stomp”]

[10e] *Mr. Morale and the Big Steppers* was this artist’s first LP since his Pulitzer-winning album *DAMN*.

ANSWER: Kendrick **Lamar** [or **Kendrick** Lamar; or Kendrick Lamar **Duckworth**]

[10h] A Black dance called Pattin’ Juba or hamboning is often cited as influencing this musician’s namesake clave (“KLAH-vay”) beat, which is often described as a “syncopated 3-2.” “I’m a Man” was the B-side to the namesake song of this musician, who often played a rectangular guitar.

ANSWER: Bo **Diddley** [or Elias **McDaniel**; or Elias **Bates**; prompt on Bo]

<Other Fine Arts (Mixed Auditory Arts)>

TB. In the second painting in this series, a man points to a white castle in the sky as an angel stands to his right. For 10 points each:

[10m] Name this series of four allegorical paintings that depicts a man in a boat as the landscape around him changes.

ANSWER: *The* ***Voyage of Life***

[10e] *The Voyage of Life* was painted by this British-American artist. This member of the Hudson River School also painted the five-part series *The Course of Empire*.

ANSWER: Thomas **Cole**

[10h] Cole also painted a series of four works that depict scenes from this novel, including a “Landscape with Figures” and a painting of this novel’s heroine dying while another man hangs off the edge of a cliff.

ANSWER: *The* ***Last of the Mohicans*** [or *The* ***Last of the Mohicans****: A Narrative of 1757*]

<TB (Painting & Sculpture)>