

SOUTHEAST-MIDWEST HOUSEWRITE: PACKET 12

Edited by: Dylan Bowman, Aidan Leahy, Katherine Lei, Arjun Nageswaran, Govind Prabhakar, Ethan Strombeck, Ethan Ashbrook, and William Groger, with oversight by Taylor Harvey.

Written by the editors and Shoorsen Gandhi, Elan Pan, Lawrence Zhao, Aadi Karthik, Vishal Sareddy, Janaki Kapadia, Aaron Dantzler, Soham Mehra, Arjun Kala, Joel Valan, Jonathan Lau, Matthew Tang, Annie Lin, Shreyas Singh, Biniam Alaro, and Arthur Delot-Vilain.

NOTE: THESE TOSSUPS AND BONUSSES ARE PAIRED. IF THE TOSSUP GOES DEAD, SKIP THE ASSOCIATED BONUS. DO NOT GO BACK AND READ ANY BONUSSES THAT ARE SKIPPED.

1. These entities can be studied *in vivo* by using Mud fusions, which can either be “forward” or “reverse.” Xylulose phosphate is the end product of the action of another of these entities that includes araD. A G-C rich stem and loop structure with a series of uracil residues characterizes the attenuator sequence in one of these entities. Cyclic AMP binds to the protein (*) CAP to serve as a positive regulator of another of these entities. That one of these entities regulates beta-galactosidase and is categorized as inducible, while another that regulates tryptophan is categorized as repressible. For 10 points, name these sequences of DNA that regulate gene expression under the control of a single promoter, examples of which include *trp* and *lac*.

ANSWER: **operon** [accept specific types of **operons**]

<Valan, Biology> [Ed. Lei]

1. These animals are decapitated and used as *ébo* (“eh-boh”) in the ritual of *matanza*. For 10 points each:

[M] Name these animals most commonly used for sacrifices in Santería. In 1992, the U.S. Supreme Court struck down a law against followers of Santería sacrificing these animals.

ANSWER: **chickens** [accept **roosters**]

[H] As part of the Jewish holiday of Yom Kippur, a chicken is swung overhead in a ritual with this Hebrew name. After this ritual, the chicken is slaughtered and its meat donated to charity.

ANSWER: **kapparot**

[E] The first pope with this name declared the chicken the official emblem for the Roman Catholic Church. That pope with this name is also the namesake of a form of plainchant used by the Church in Medieval times.

ANSWER: **Gregory** [accept Pope **Gregory I**; accept **Gregorius I**]

<Prabhakar, Religion> [Edited]

2. On returning to this state, one character thinks “what if Life itself were the sweetheart?” and writes to Professor Auerbach to regain her job as a pianist. At the end of one novel, Harry Gordon’s love interest falls into a river while ice skating and dies in this state. A novel in this state opens with the protagonist trying to retrieve her five-year-old brother’s cat down from a telegraph pole. In that novel, a character planning to attend law school in Michigan decides to stay in this state after (*) Amédée dies of a ruptured appendix. Lena Lingard urges a character to return to this state to visit a woman abandoned by Larry Donovan. Jim Burden finds the eldest Shimerda daughter married to Anton Cuzak while revisiting this state’s fictional city of Black Hawk. For 10 points, name this state where Willa Cather set *O Pioneers!* and *My Ántonia*.

ANSWER: **Nebraska**

<Kala, Long Fiction> [Edited]

2. Many of this body's members were chieftains called *godar* who served in a law council called the Lögrétta. For 10 points each:

[M] Name this body established in 930. This body assembled at a rocky outcrop called the Lögberg, and was presided over by an official called the Lawspeaker who served a three-year term.

ANSWER: **Althing**

[E] The Althing was established in Iceland after it was colonized by these Scandinavian seafarers. These people's namesake age is considered to have begun with their raid on Lindisfarne in 793.

ANSWER: **Vikings** [accept **Norsemen**]

[H] In 1000 AD, the Lawspeaker Thorgeir Thorkelsson convinced the Althing to adopt this policy. In Norway, Olaf Tryggvason had Raud the Strong violently executed for his opposition to this policy.

ANSWER: **Christianization** [accept anything referring to **converting** to **Christianity**; prompt on **conversion**]

<Prabhakar, British/European History> [Edited]

3. The first full recording of a set of works by this composer was made by Scott Ross shortly before his AIDS-related death. Those works were divided into two sections linked by a "crux" according to a 20th century scholar of this composer. Guitar-like rhythms and Andalusian cadences have been identified in several sonatas by this composer written during his time as the tutor of the Princess Maria Barbara. The last of this composer's *Essercizi* was inspired by his pet, Pulcinella, walking across a (*) keyboard. In his catalogue of this composer's most famous works, Ralph Kirkpatrick assigned the number 30 to that piece, the *Cat Fugue*. This composer's father, Alessandro, was a prominent member of the Neapolitan operatic school. For 10 points, name this Italian Baroque composer of 555 keyboard sonatas.

ANSWER: Domenico **Scarlatti**

<Delot-Vilain, Classical Music> [Ed. Strombeck]

3. This poem's title character urges his son to quit writing plays and find "some peaceful province in acrostic land." For 10 points each:

[H] Name this poem addressed to the "True-blue Protestant Poet T.S." This poem's opening line claims that "all human things are subject to decay."

ANSWER: "**Mac Flecknoe**"

[M] This Restoration poet attacked Thomas Shadwell in his mock epic "Mac Flecknoe." He allegorized his conversion to Catholicism in "The Hind and the Panther" and also wrote plays like *Absalom and Achitophel* ("uh-KITT-uh-fell").

ANSWER: John **Dryden**

[E] Dryden and Shadwell were the first two holders of this government-appointed position in England, which composes poems for special events. In 2019, Joy Harjo took over the U.S.'s version of this position from Tracy K. Smith.

ANSWER: **Poet Laureate** [accept **Poet Laureate** of the United Kingdom]

<Bowman/Leahy, Poetry> [Ed. Leahy]

4. Dong Fuxiang (“FOOSH-yang”) led one military unit consisting of these people that was responsible for killing Sugiyama Akira. After a massacre of these people in Kunming, the opium addict Du Wenxiu (“WEN-shyoo”) led a revolt of these people in Yunnan. The Hongwu Emperor personally wrote the “Hundred-Word Eulogy” as part of an effort to gain support from these people. These people rose up against the Qing Dynasty during the Panthay Rebellion and (*) Dungan Revolt. The Gansu Braves consisted of members of this religious group. The Yongle Emperor sponsored multiple expeditions across the Indian Ocean led by a eunuch from this religious group, Zheng He. For 10 points, the Hui and Uyghurs belong to what religious group?
ANSWER: Chinese **Muslims** [accept Chinese followers of Sunni **Islam**; prompt on Hui or Uyghurs before mentioned with “To which religious group do they belong?; prompt on Chinese people]
<Nageswaran, World History> [Ed. Prabhakar]

4. Answer the following about large-scale stone works you might encounter on Pacific islands. For 10 points each:
[E] The *Rapa Nui* created over 900 of these stone figures. The fact that some of these figures at Rano Raraku are buried to their shoulders has led to them being known as the "Easter Island Heads" in popular culture.

ANSWER: **moai**

[M] Massive disk-shaped *rai* stones were used as currency by the inhabitants of the island of Yap, part of this larger Pacific island group. This island group shares its name with a country with capital at Palikir.

ANSWER: **Micronesia** [accept Federated States of **Micronesia**]

[H] *Latte* stones, which were pillars topped by hemispheres, were built by these people’s *manachang* caste. A *latte* features prominently on the flag of one territory home to these people, whose capital is Saipan.

ANSWER: **Chamorro** people

<Strombeck, Geography> [Edited]

5. Inside of this object, a group of elderly people are turned into babies and have their diapers changed by their children after consuming a rejuvenating pill suffixed “-Vite.” After traveling into outer space in a sequel, this object docks at the Space Hotel U.S.A., where it is attacked by the Vermicious Knids. This object is unique because it can (*) go “sideways and longways and slantways” in addition to just up and down, and its interior is covered with thousands of black buttons. After “hovering like a helicopter” over London, this object crashes through the roof of the Bucket household to transport four grandparents who all share a bed. For 10 points, name this object used to travel “UP AND OUT” in *Charlie and the Chocolate Factory*.

ANSWER: the Great Glass **Elevator** [or the **Wonkavator** or the Great Glass **Lift**; accept any answers referring to an **elevator** or **lift** in *Charlie and the Chocolate Factory*; accept *Charlie and the Great Glass Elevator*; begrudgingly accept any answers referring to an **elevator** or **lift** in *Willy Wonka and the Chocolate Factory*]

<Bowman, Short Fiction/Other> [Edited]

5. Several life-like portraits of this person during his diplomatic stay in France are among the best known paintings of Joseph-Marie Duplessis. For 10 points each:

[E] Name this historical figure. Cherubs hold a string and curiously touch scientific instruments in a Benjamin West painting showing this person's 1752 experiment with a kite in a lightning storm.

ANSWER: Benjamin **Franklin** [accept *Benjamin Franklin Drawing Electricity from the Sky*]

[M] This artist showed Franklin as the right-most of five figures presenting the title document in his *Declaration of Independence*. This "Painter of the Revolution" created depictions of the Battles of Bunker Hill and Quebec.

ANSWER: John **Trumbull**

[H] This French sculptor created marble busts of Franklin as well as other Enlightenment figures like Diderot, Voltaire, and Jefferson.

ANSWER: Jean-Antoine **Houdon**

<Strombeck, Painting & Sculpture> [Edited]

6. One figure in this book kills a drunken man and convinces the servant Zoram to join him in stealing the brass records containing his lineage. Locating a “narrow neck” of land mentioned in this book is one of the biggest challenges for modern “limited geography models” for it. A ball of “curious workmanship” in this book stops functioning when its holders are unfaithful; that item is a compass called (*) Liahona. The wars between the Lamanites and the Nephites are described in this book, which was translated using the stones Urim (“OOH-rim”) and Thummim (“THOO-mim”). This book was translated from “Reformed Egyptian” by its discoverer with the help of the angel Moroni. For 10 points, name this central text of an American religious tradition founded by Joseph Smith.

ANSWER: The **Book of Mormon** [accept the **First Book of Nephi** on the first sentence, prompt on it afterwards by asking, “What larger book is that book contained in?”]

<Ashbrook, Religion> [Edited]

6. One site excavated by this archaeologist was home to the Bull-Leaping Fresco. For 10 points each:

[H] Name this archaeologist, who theorized that site was the seat of the mythical son of Zeus and Europa. This archaeologist brought many artifacts from that site to the Ashmolean Museum, of which he was the curator.

ANSWER: Sir Arthur John **Evans**

[E] Evans excavated the palace of Minos at Knossos, the center of the Bronze Age Minoan civilization on this Greek island. The Palace of Knossos is located near this island’s city of Heraklion.

ANSWER: **Crete** [accept **Kriti** or **Krete**]

[M] Evans’ discovery of tablets in this script indicates a period of Mycenaean control over Knossos circa 1400 BCE. Michael Ventris deciphered this script, believed to be the earliest form of Ancient Greek.

ANSWER: **Linear B** [prompt on **Linear**; do NOT accept or prompt on “Linear A”]

<Sareddy, Other History> [Ed. Prabhakar]

7. During the Clinton scandal, rumors began that Monica Lewinsky’s mother had an affair with a member of this musical group, about whom she wrote a gossip biography. This group was formed to celebrate the recovery of one of its members from leukemia. One member of this group performed in a duet concert with Bryan Adams most noted for its rendition of a (*) Neapolitan song. This group debuted with a performance at the Baths of Caracalla in Rome the evening before the 1990 World Cup final. That performance featured a signature rendition of “Nessun dorma” by this ensemble’s only Italian member. For 10 points, name this ensemble composed of Plácido Domingo, José Carreras, and Luciano Pavarotti, all singers in a high male vocal range.

ANSWER: the **Three Tenors**

<Bowman, Miscellaneous Fine Arts> [Edited]

7. Robert Darnton wrote an essay about these animals that titles his 1984 book on *Episodes in French Cultural History*. For 10 points each:

[H] Name these animals. Darnton’s essay on the “Great Massacre” of these animals describes how they were put on trial and sentenced to death by printer apprentices angry with their working conditions.

ANSWER: **cats** [or **felines**; accept the Great **Cat** Massacre]

[E] The final essay of Darnton’s *The Great Cat Massacre* is called “Readers Respond to” this philosopher. This thinker claimed “man is born free, and everywhere he is in chains” in his book *The Social Contract*.

ANSWER: Jean-Jacques **Rousseau** [accept Readers Respond to **Rousseau**]

[M] Darnton was influenced by this anthropologist’s concept of “thick description.” This anthropologist used “thick description” in “Deep Play,” an essay about a “superorganism” that arose at a Balinese cockfight.

ANSWER: Clifford James **Geertz**

<Delot-Vilain, Other Academic> [Ed. Ashbrook]

8. This task can be simplified by removing variables via Fourier-Motzkin elimination. Grids called tableaux are used to track pivot operations in one algorithm that performs this task by first defining slack variables. The domain in which this task is possible is called the feasible region and is represented by a convex polytope whose corners are found in (*) linear programming algorithms like the simplex algorithm. Lagrange multipliers are used to perform this task given the gradient of the objective function. The first derivative test is used to perform this task because this task seeks points whose derivatives are equal to zero. For 10 points, name this process of finding the maximum or minimum of a function.

ANSWER: **optimization** [accept **maximization** or **minimization**; accept **linear programming** or **LP** or **mathematical programming** or **MP** until “linear programming”; prompt on **programming**; prompt on any answers referring to solving **linear** equations by asking “what task are you trying to accomplish by solving linear equations?”]

<Bowman, Math> [Edited]

8. In this novel, a drought in the province of Abazon is claimed to be “God’s judgment” after it is the only place to vote against a man becoming President-for-Life. For 10 points each:

[H] Name this novel, in which *National Gazette* editor Ikem Osodi is executed by a man known as “His Excellency,” the dictator of the fictional nation of Kangan.

ANSWER: ***Anthills of the Savannah***

[M] This author wrote about the despotic dictator Sam in his novel *Anthills of the Savannah*. A character created by this author tells a story about a tortoise who attempts to join a feast of birds.

ANSWER: Chinua **Achebe**

[E] Achebe is best known for this novel, in which the wrestling champ Okonkwo beats his wife during the Week of Peace and kills his stepson Ikemefuna.

ANSWER: ***Things Fall Apart***

<Karthik, Long Fiction> [Ed. Leahy]

9. Historian Kate Brown's book about this event, *Manual for Survival*, uses the case study of 300 woolworkers indirectly affected by this event. The TORCH report examined this event, which resulted in the mobilization of a group known as the “liquidators.” The *samosely* are residents of an area affected by this event, which was chronicled in a book called *Voices from [this event]* by journalist Svetlana (*) Alexievich. The “Red Forest” was created by this event, which began after a power surge at Unit 4. This event led to the creation of a namesake exclusion zone and resulted in the evacuation of Pripyat. For 10 points, name this 1986 nuclear disaster that affected a Ukrainian power station.

ANSWER: **Chernobyl** disaster [accept **Chernobyl** accident or **Chernobyl** explosion or **Chernobyl** meltdown or anything describing a disaster at the **Chernobyl** Nuclear Power Plant]

<Strombeck/Prabhakar, British/European History> [Ed. Prabhakar]

9. Amoeboid aggregates rich in this mineral formed in the solar nebula and are found in meteorites on Earth. For 10 points each:

[M] Name this mineral that sits at the top of the discontinuous branch of Bowen's reaction series. This green mineral makes up peridot and is the most common mineral in the upper mantle.

ANSWER: **olivine**

[H] Amoeboid olivine aggregates are found in these meteorites, which are entirely rock and have little iron or nickel. The carbonaceous variety of these meteorites are used to support the panspermia hypothesis because they carry water and amino acids.

ANSWER: **chondrites** [accept carbonaceous **chondrites** or C **chondrites**]

[E] Olivine measures 6.5 or 7 on this scale of mineral hardness which is named for a German geologist.

ANSWER: **Mohs** scale [or **Mohs** hardness scale]

<Bowman, Earth Science> [Edited]

10. In one book, this thinker defined a “dynamic density” of a group based on the level of socialization within it. In that book, this thinker distinguished between “restitutive” and “repressive” laws based on if punishment comes from the court or the community. This thinker coined terms for two types of societies in which people socialize either through related lifestyles or workspaces to form “solidarity” with others. In a book that incorporates his theory of (*) “social facts,” this thinker claimed that looser social control led to Protestants performing a certain action more than Catholics; in that book, this thinker identified egoistic, altruistic, anomic, and fatalistic forms of the title action. For 10 points, name this French sociologist who wrote *The Division of Labor in Society* and the book *Suicide*.

ANSWER: (David) Émile **Durkheim**

<Ashbrook, Sociology> [Edited]

10. Prior to this figure's birth, his father Zacharias was made mute by the angel Gabriel. For 10 points each:

[E] Name this biblical figure who described himself as the "voice of one crying in the wilderness." He also immersed Jesus in the River Jordan.

ANSWER: **John the Baptist** [accept **Yahya** or **Yochanan**; prompt on **John**]

[M] At the request of his daughter Salome, one king with this name ordered the beheading of John the Baptist. That king's predecessor who also shares this name ordered the execution of all male children under the age of two that lived near Bethlehem in the Massacre of the Innocents.

ANSWER: **Herod** [accept **Herod Antipas**; **Herod the Great**; **Herod the tetrarch**]

[H] John the Baptist is venerated as the chief prophet of this dualistic gnostic religion. This religion's holy text, the *Ginza Rba*, states that the material universe was created by Ptahil.

ANSWER: **Mandaism** [accept **Mandaenism**; do NOT accept or prompt on "Manichaeism"]

<Groger, Mythology> [Edited]

11. A member of this family exclaims “Adieu to disappointment and spleen. What are young men to rocks and mountains?” while thanking her aunt. Another member of this family described as “devoid of genius and taste” performs a terrible song recital, and is later revealed in a letter to obtain “nothing higher than one of her Uncle Philips’ clerks.” A member of this family is chastised for having trudged through (*) six inches of mud during a five mile walk. The property of this family's patriarch is entailed, meaning that their estate in Longbourn has to be willed to a man. A daughter in this family, Lydia, elopes with Mr. Wickham, who then extorts a dowry from this family which is paid by Mr. Darcy. For 10 points, name this central family of *Pride and Prejudice*.

ANSWER: **Bennet** family

<Bowman, Long Fiction> [Ed. Leahy]

11. Answer some questions about the architectural firm McKim, Mead, and White, for 10 points each.

[H] The firm used the Baths of Caracalla as a model for this massive building in New York City. After this complex's "head house" was demolished despite a large outcry, it today exists almost entirely underground.

ANSWER: **Pennsylvania Station**

[M] McKim, Mead, and White designed Pennsylvania Station in this late 19th century architectural style named for a French academy. Daniel Burnham used this style to build the "White City" for the Columbian Exposition.

ANSWER: **Beaux-Arts** architecture

[E] In 1903, the firm was hired to build two extensions for this building, its East and West Wings. This building's massive 1950 renovation included the addition of a balcony on its rear portico named for Harry Truman.

ANSWER: The **White House** [accept **1600 Pennsylvania Avenue** NW; prompt on **Presidential mansion**]

<Ashbrook, Architecture> [Ed. Strombeck]

12. The Athenian slave Pasion worked in this industry, whose workers were known as *trapezites* in Ancient Greece. The *contractum trinius* sought to overcome one restriction on this industry. Benedetto Cotrugli and Luca Pacioli both published texts explaining one practice in this industry. Branches "of the deer" and "of the lily" comprised one influential family active in this industry. The election of (*) Charles V as Holy Roman Emperor was made possible by the support of a prominent family that participated in this industry. Families like the Fuggers prospered in this industry despite the Catholic Church forbidding usury. The Medici family made their fortune in, for 10 points, what industry of holding and loaning out money?

ANSWER: **banking** [accept **bankers**; accept **moneylending**; accept **finance**; prompt on **bookkeeping** or **accounting**]

<Prabhakar, Other History> [Edited]

12. John Snow investigated an outbreak of this disease in 19th-century London and traced its origin to the Broad Street pump. For 10 points each:

[E] Name this bacterial disease of the small intestine which causes diarrhea and dehydration.

ANSWER: **cholera** [accept *Vibrio cholerae*]

[H] The A1 portion of cholera toxin adds ADP-ribose to the alpha subunit of these trimeric proteins, causing the constitutive production of cAMP ("c-a-m-p"). The main substrates of these enzymes are exchanged via a GEF.

ANSWER: **G proteins** [prompt on **GTPases**; do NOT accept or prompt on "GPCRs" or "G-protein coupled receptors"]

[M] The B subunit of the cholera toxin is responsible for binding to gangliosides, a class of lipids whose accumulation in the brain causes this fatal genetic condition, which may be indicated by a red spot on the fovea.

ANSWER: **Tay-Sachs** disease [or **hexosaminidase A deficiency**; prompt on GM2 **gangliosidosis**]

<Lau, Biology> [Ed. Lei]

13. A differential refractometer is used in the "absolute" form of this technique, which is often coupled with dynamic light scattering. An index equal to one hundred times the number of carbons for n-alkanes is sometimes used in this technique. Temperature programming solves a "general" problem in this technique. Eddy diffusion, longitudinal diffusion, and mass transfer terms are present in an equation describing this technique. Molecules reach a (*) flame ionization detector in one form of this technique. The solvent front is marked in the "thin layer" type of this technique. The ratio that describes how far a compound elutes in this technique is known as the retention factor. For 10 points, name this technique to separate components of a mixture with types like "column" and "paper."

ANSWER: **chromatography** [accept gas **chromatography** or size-exclusion **chromatography** or other types of **chromatography**; prompt on **GC** or **TLC** or **SEC**]

<Zhao, Chemistry> [Ed. Lei]

13. Courtney Parker's book on the "spectrums" of this action in Shakespeare's plays analyzes the seriousness of different instances of this action. For 10 points each:

[E] Name this action undertaken by various Shakespeare characters, such as Rosalind in *As You Like It*. In the prologue to *The Taming of the Shrew*, a servant performs this action to convince Christopher Sly that he is his wife.

ANSWER: **crossdressing** [accept descriptions like **dressing up** as the **opposite gender**, **wearing drag** or other common-sense equivalents]

[M] Parker refers to comic crossdressers, like Flute's Thisbe, as the female version of this character. The merry wives trick this character into crossdressing as the "Fat Woman of Brentford," leading to Ford whipping him.

ANSWER: Sir John **Falstaff**

[H] The protagonist of this late Shakespeare play crossdresses as Fidele while lost in the wilderness, but ends up drinking a sleeping potion, waking up next to a headless corpse, and getting knocked down by her own husband.

ANSWER: **Cymbeline**

<Ashbrook, Drama> [Ed. Leahy]

14. A member of this movement painted a still-life work featuring two statuettes holding Jesus, a chicken, and an image of St. George on horseback. Another artist from this movement painted two children and a dog at the center of a faceless group of people in *Farewell*, created shortly before that artist's death. A painting from this movement was restored after a warehouse fire by its artist's friend (*) Paul Klee ("clay"). That artist co-founded this movement with Gabriele Münter and a theorist who wrote *Concerning the Spiritual in Art*. The paintings *The Fate of the Animals* and *Yellow Cow* were created by this movement's member Franz Marc. For 10 points, identify this German Expressionist art movement named after a Wassily Kandinsky work depicting a title colorful figure on horseback.

ANSWER: The **Blue Rider** [or Der **Blaue Reiter**; prompt on German **Expressionism**] (The first painting is *Still Life With St. George* by Gabriele Münter; the second painting is by August Macke.)

<Lin, Painting & Sculpture> [Ed. Strombeck]

14. This island was home to the largest population of the Shirazi people, who claimed descent from Persian traders. For 10 points each:

[M] Name this island which became the center of an independent sultanate after the death of Said bin Sultan. This island's sultans were served by the slave trader Tippu Tip, who operated massive clove plantations on this island.

ANSWER: **Zanzibar**

[E] Zanzibar was one of the many trading centers located on this language's namesake coast, stretching from Mogadishu to Sofala. This Bantu language is an official language in many East African nations today.

ANSWER: **Swahili** [or **Kiswahili**; accept **Swahili** coast]

[H] This other island city south of Zanzibar was also the center of a namesake sultanate ruling much of the Swahili Coast in the 1400s. This city's Palace of Husuni Kubwa and Great Mosque were both built using coral stone.

ANSWER: **Kilwa** Kisiwani

<Strombeck, World History> [Edited]

15. The narrator of one part of this collection meets a prisoner whose desire to "hold the world captive" leads them to forge an unbreakable chain around themselves. This collection's introduction compares its author to Chaucer and how he wrote *Troilus and Cressida* "when there was but one mind in England." This collection ends with an image of "a flock of homesick cranes" as the narrator asks to approach heaven "in one salutation to thee." One part of this collection describes a place (*) "where knowledge is free" and "where the mind is without fear" before imploring the addressee to "let my country awake." This collection opens by stating, "Thou hast made me endless, such is thy pleasure." William Butler Yeats wrote the introduction to, for 10 points, what collection of "song offerings" by Rabindranath Tagore?

ANSWER: **Gitanjali** [accept **Song Offerings** before mentioned]

<Ashbrook, Poetry> [Ed. Leahy]

15. This quantity can be calculated by taking the reciprocal of 2π times the cutoff frequency. For 10 points each:
[M] Name this quantity, the time it takes for a capacitor to charge to 63.2% of the applied voltage. It arises from the dependence of the voltage charge of a capacitor on the function “one minus e to the x.”

ANSWER: RC **time constant** [do NOT accept or prompt on “time”]

[E] The time constant of an RC circuit is equal to resistance times this quantity. This quantity is measured in farads.

ANSWER: **capacitance** [prompt on C]

[H] The time constant for more complex circuits can be found after applying this theorem, which reduces circuits to a voltage source, a series resistance, and a load component. This theorem is often used alongside Norton’s theorem.

ANSWER: **Thévenin**’s theorem

<Valan, Physics> [Ed. Bowman]

16. A Russian immigrant who lived in this city, Emmy Shafer, campaigned for a referendum to make English its official language. Refugees who moved to this city were documented in its Freedom Tower. This city was the first destination of unaccompanied minors relocated during Operation Peter Pan. A crisis involving rafters attempting to reach this city led to the creation of the (*) “Wet feet, dry feet” policy. A picture taken in this city shows a federal agent pointing a gun while seizing 6 year old Elián González. Most of the immigrants relocated during the Mariel Boatlift settled in this city. For 10 points, “Freedom Flights” from Cuba led to the creation of the Little Havana neighborhood in what city in Florida?

ANSWER: **Miami**, Florida

<Nageswaran, American History> [Edited]

16. A trio for this instrument, cello, and piano was written by Louise Farrenc. For 10 points each:

[E] Name this reedless, metal woodwind instrument that is the lower cousin of the piccolo. Performers of this instrument include Jean-Pierre Rampal and James Galway.

ANSWER: **flute**

[H] This French composer wrote a *Concertino in D Major* for flute. Other pieces by this composer include “Scarף Dance” and a *Konzertstück in C Sharp Minor*.

ANSWER: Cécile Louise Stéphanie **Chaminade**

[M] The duet *D’un matin de printemps* by a member of this family, Lili, is alternatively scored for flute and piano or violin and piano. Another member of this family, Nadia, taught composers including Philip Glass.

ANSWER: **Boulanger** [accept (Juliette) Nadia **Boulanger**; accept Lili **Boulanger**; accept Marie-Juliette Olga **Boulanger**]

<Nageswaran, Classical Music> [Edited]

17. One thinker held that this non-German person created an “atomized society” of “superfluous people” in a book discussing this person’s co-opting of “pan-movements.” That book was written seven years before its author’s *The Human Condition*. This person argued that supporting war while opposing social revolution was “chauvinistic” in a lecture collected in a book titled for the “Foundations” of their predecessor. (*) Hannah Arendt analyzed the techniques used by this non-German and their consequences in her book *The Origins of Totalitarianism*. This person’s political ideology of “socialism in one country” was achieved via methods like propaganda and total social control. For 10 points, name this person whose namesake ideology succeeded that of his predecessor, Lenin.

ANSWER: Joseph **Stalin** [or Joseph Vissarionovich **Stalin**; accept Ioseb **Jughashvili**]

<Karthik, Philosophy> [Ed. Ashbrook]

17. These molecules, which were discovered at NEC Corporation by Sumio Iijima, are chiral when m is greater than zero and m is not equal to n . For 10 points each:

[H] Name these molecules which may be classified as multi-walled when single-wall types of these molecules are nested.

ANSWER: carbon **nanotubes** [prompt on **CNTs**, prompt on **fullerenes**]

[E] Carbon nanotubes can be created by chemically depositing substances in this phase. This phase of matter is the result of boiling or sublimation.

ANSWER: **vapor** [or **gas**]

[M] Chemical vapor deposition can be used to synthesize the high kappa type of these materials. Putting this type of material between capacitor plates increases capacitance.

ANSWER: **dielectric** materials [or **dielectrics**]

<Lei, Chemistry> [Edited]

18. One account about this figure notes how Athena told this figure's grandfather Poseidon that she could not protect him and how he fell like a withering poppy. Though this figure has nothing to do with Helen of Troy, he was written about in a song by the poet Stesichorus. Property formerly belonging to this figure were the targets of a failed theft by Cacus ("CAACK-us"). A (*) gadfly sent by Hera stung that property belonging to this son of Callirhoe ("cuh-LEER-oh-ee") and Chrysaor ("cry-SAY-or"). One figure crossed the Libyan desert with the help of Helios' golden goblet to steal this figure's most famous possessions. This figure lived on Erytheia with his herdsman Eurytion and the two-headed dog Orthrus. For 10 points, what three-headed and six-footed red giant had his herd of cattle stolen during Heracles' tenth labor?

ANSWER: **Geryon** [accept **Geryones**]

<Prabhakar, Myth> [Ed. Groger]

18. Rosina Tucker, who helped establish this union, also led the International Ladies Auxiliary made up of wives of members of this union. For 10 points each:

[H] Name this union, the first African American union to be chartered by the AFL. This union's leader and Bayard Rustin organized a planned 1941 March on Washington to ensure a ban on racial discrimination for employment.

ANSWER: **Brotherhood of Sleeping Car Porters** [accept the **BSCP**]

[M] The Brotherhood of Sleeping Car Porters was founded to represent workers of this company. Richard Olney secured a federal injunction against striking workers of this company during an 1894 strike.

ANSWER: **Pullman** Company [accept the **Pullman** Strike; accept **Pullman** porters]

[E] A. Philip Randolph, who led the Brotherhood of Sleeping Car Porters, pressured this president to sign Executive Order 9981 to desegregate the armed forces. This president took office after the death of Franklin D. Roosevelt.

ANSWER: Harry S. **Truman**

<Nageswaran, American History> [Edited]

19. Coordinates for which this quantity is constant are ignored by Routhian mechanics and are called cyclic coordinates. In fluid dynamics, Newton's second law is usually expressed as the balance of this quantity. Each value for the generalized form of this quantity is canonically conjugate to a generalized coordinate. Classical rockets operate by taking advantage of the (*) conservation of this quantity. It's not mass, but the reference frame where this quantity is zero is used to simplify two-body collision problems. This quantity squared over two times mass is equal to kinetic energy. Both elastic and inelastic collisions conserve this quantity. For 10 points, name this quantity symbolized p , equal to mass times velocity.

ANSWER: linear **momentum** [accept generalized **momentum**; prompt on p ; do NOT accept or prompt on "angular momentum"]

<Bowman, Physics> [Edited]

19. In one essay, this critic identifies five modes ranging from mythic to ironic that determine the scale upon which the hero of a story interacts with the environment. For 10 points each:

[H] Name this 20th-century Canadian literary critic who collected that essay along with three others in his *Anatomy of Criticism*.

ANSWER: Northrop **Frye**

[M] In *Anatomy of Criticism*, Frye draws from many of the themes mentioned in this Ancient Greek dramatic tract, which dissects elements of tragedy and comedy and responds to Plato's writings about *mimesis* ("mih-MEE-siss").

ANSWER: **Poetics** (by Aristotle)

[E] *Anatomy of Criticism* expands upon Aristotle's presentation of this concept by linking it to tragedy in the low-mimetic mode. This concept, which is an appeal to the audience's emotions, is one of the three modes of persuasion along with *logos* and *ethos*.

ANSWER: **pathos**

<Bowman, Short Fiction/Other> [Edited]

20. This leader was criticized for refusing to take a position on a 2020 national cannabis referendum that failed, although the euthanasia referendum on the same ballot passed. This leader backtracked on a promise to institute a capital gains tax due to pressure from Winston Peters. In October 2020, this leader defeated Judith Collins's National Party in a landslide, allowing the Labour Party to form a majority government. This leader helped pass stricter (*) gun laws less than a month after a mass shooting at the al-Noor Mosque. This non-Asian leader was praised for the heavily-enforced lockdown of her island country which led to the disappearance of community COVID spread for several weeks. For 10 points, name this current prime minister of New Zealand.

ANSWER: Jacinda **Ardern**

<Strombeck, Current Events> [Ed. Nageswaran]

20. Answer some questions about why cramming isn't a very effective study method, for 10 points each.

[H] Short-term memory is better encoded when studying is spaced out, according to this psychologist's spacing effect. This psychologist created an exponential equation meant to represent the rate at which people forget things.

ANSWER: Hermann **Ebbinghaus**

[E] Cramming instead of sleeping leads to less time for this section of the brain to convert information into long-term memory. This section also oversees spatial memory, and its name is Greek for "water horse."

ANSWER: **hippocampus** [accept **Hippo University**]

[M] Cramming *could* be effective if this technique of grouping bits of related information together is employed. This technique can be used to increase the capacity of working memory.

ANSWER: **chunking**

<Ashbrook, Psychology> [Edited]
