

2022 ACF Regionals

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Packet K by VCU A, Rutgers A, Rutgers B, Maryland B

TOSSUPS

1. In a creation story of the Bushongo, the personification of this phenomenon is chased away from the earth by Bumba. This phenomenon is excreted by a bird identified as a witch's familiar by the Zulu; that bird is the *impundulu*. After either facing a coup led by his own generals or destroying part of his palace with this phenomenon, an *alaafin* commits suicide and ascends to the heavens on a chain. A creature associated with this phenomenon, depicted as an X shape, lifts its enemy out of the ocean during battles with the Whale. It's not fire, but this phenomenon is governed by an orisha who wields a double ax and is named Shango. A diamond scepter or this phenomenon represents the vajra of Indra. For 10 points, name this phenomenon wielded as a weapon by Zeus.

ANSWER: **lightning** [accept **thunder**bolts; accept **thunder** or **thunder**birds; accept **electricity**; prompt on **storms**]
<Mythology>

2. In one of these places, the pregnant narrator hears a woman repeating, "How can I bear it?" in Hilma Wolitzer's story "Today a Woman Went Mad in [one of these places]." Morris Bober and Frank Alpine first meet at one of these places in Bernard Malamud's novel *The Assistant*. In a poem set in one of these places, the speaker claims, "I touch your book and dream of our odyssey." A story titled for one of these places ends with a teenage boy realizing "how hard the world was going to be" after seeing three girls in bathing suits he calls Queenie, Plaid, and Big Tall Goony-Goony. A poet in one of these places asks, "Are you my Angel?" and is asked, "Which way does your beard point tonight?" For 10 points, an Allen Ginsburg poem is titled for what kind of place "in California"?

ANSWER: **supermarket** [or a **grocery** store; prompt on chain **store** or **market**; accept "A **Supermarket** in California"; accept "Today a Woman Went Mad in the **Supermarket**"; prompt on "**A&P**" by asking "what type of store is that?"]

<American Literature>

3. One of these bodies caused an event that created terrain morphologically similar to the "chaotic terrain" on Mars in Earth's Channeled Scablands, as shown by J. Harlen Bretz. One of these bodies was the source of an event that devastated Uttarakhand's Chamoli district in February 2021. One of these bodies was the source of an event at the end of the Pleistocene ("PLICE-tuh-seen") that reshaped much of what is now Washington and Oregon and was given the Salish-derived name "Missoula." These bodies are breached when rock falls or calving creates standing waves called seiches ("SAYSH-es") that result in overtopping. Water stored in these bodies is released during jökulhlaups ("yo-KOOL-lops"). These bodies can be moraine-dammed or ice-dammed. For 10 points, name these bodies of water that form when a large ice sheet erodes land and melts.

ANSWER: **glacial lakes** [accept **subglacial lakes**; accept any answer indicating **lakes** formed by a **glacier**; prompt on bodies of **water** or glacial melt**water** before "water"; prompt on **glaciers** by asking "what bodies that form from the motion of glaciers?"; prompt on **lakes** by asking "the lakes in question were formed by what objects?"]

<Other Science>

4. The *Leechbook of Bald* offers insight into remedies used by Elias of Jerusalem to treat this ruler, who likely suffered from Crohn's disease. The Ashmolean Museum contains a gold-enclosed enamel and rock crystal jewel named for this ruler that was discovered near Athelney. A daughter of this ruler extended a defense system in which thirty fortresses were garrisoned by four men to each wall perch; that system of burhs was detailed in the Burghal Hidage during the reign of this ruler's son, Edward the Elder. This ruler translated *Pastoral Care*, an ecclesiastical handbook composed by Pope Gregory I. The *Anglo-Saxon Chronicle* was originally compiled during the reign of this ruler, who oversaw the baptism of Guthrum after the Battle of Edington. For 10 points, the Welsh monk Asser wrote a biography of which "great" king of Wessex?

ANSWER: **Alfred** the Great (His daughter Æthelflæd worked with Edward the Elder to extend the system of burhs.)
<Other History>

5. This is the first word in the title of a musical number in which men shown hiding behind raised newspapers sing about the mixed results of a woman's visits to Spain and Italy. A musical titled for one of these things features a controversial subplot in which an accidentally invoked wish turns a bigoted Southerner black. Harry Carroll adapted the melody of Chopin's ("sho-PAN's") *Fantaisie-Improptu* into a vaudeville song titled for "always chasing" these things. Sharon sings "How Are Things in Glocca Morra" in a musical titled for one of these things belonging to the Irish immigrant Finian. In a 1939 movie musical number titled for one of these things, the star sings about a place "where troubles melt like lemon drops." For 10 points, a place "over" what sort of object is sung about by Judy Garland in *The Wizard of Oz*?

ANSWER: **rainbows** [accept *Finian's Rainbow*; accept "Over the **Rainbow**"; accept "**Rainbow** Tour"; accept "I'm Always Chasing **Rainbows**"] (The first number is "Rainbow Tour" from *Evita*.)
<Other Fine Arts>

6. Niobium bonded to this ion forms a superconducting thin film used in single-photon IR detectors. A compound of vanadium and this ion forms in steel production to increase surface hardness. A wurtzite structure material formed from gallium and this ion is used in durable, high-voltage transistors; that material formed from this anion is a wide-bandgap III/V ("three-five") semiconductor that is also used in blue LEDs. Like materials made from carbides, materials formed from this anion have high lattice energy, making them heat resistant and durable. A compound containing this anion forms monolayers termed "white graphene"; that compound of boron and this anion can be formed by CVD from decomposed borazine. For 10 points, name this anion composed of the lightest pnictogen ("nick-TUH-gen") atom with a formal charge of minus three.

ANSWER: **nitride** [or **N³⁻** ("N-3-minus"); accept niobium **nitride**; accept vanadium **nitride**; accept gallium **nitride**; accept boron **nitride**; accept **nitriding**; prompt on **nitrogen ion**; reject "nitrite" or "nitrate"]
<Chemistry>

7. In her book *Dislocating Cultures*, a thinker from this country criticized Mary Daly for overgeneralizing "tradition" in her writings about this country's women. Another thinker from this country proposed that feminists have othered colonial subjects through "third world difference" in the essay "Under Western Eyes." An essay by a thinker from this country accuses Deleuze ("duh-LOOZ") and Foucault of equivocation in discussions of a group that Gramsci ("GRAHM-shee") first described as those with no access to hegemonic power. A scholar from this country wrote a hundred-page translator's preface to the first English translation of Jacques Derrida's ("DEH-ree-dah's") *Of Grammatology*. A postcolonial thinker born in this country wrote "Can the Subaltern Speak?" For 10 points, name this birth country of Chandra T. Mohanty and Gayatri Spivak ("GAI-uh-tree SPIV-uk").

ANSWER: **India** [or Republic of **India** or **Bhārat** Gaṇarājya] (*Dislocating Cultures* is by Uma Narayan. "Under Western Eyes" is by Chandra T. Mohanty.)
<Philosophy>

8. Frau Göldli was accused of this practice and brought to court by the Beguines. Instigators of a “Parson Storm” rife with this practice joined Gabriel Zwilling’s Wittenberg movement, supported by Andreas Karlstadt. Leo Jud proposed the codification of this practice as a standalone second commandment. This practice was condemned in the first section of the Lenten sermons by Martin Luther. In the Spanish Netherlands, Philip II employed the Duke of Alba to suppress outbursts of this practice termed the *Beeldenstorm*. In 726, Leo III began the first of two Byzantine periods named for this practice by ordering the removal, from the Chalke of the Great Palace, of an image of Christ. For 10 points, name this practice that sought to prevent the veneration of religious images by destroying them.

ANSWER: **iconoclasm** [or word forms like **iconoclasts**; prompt on the destruction of religious images] (Huldrych Zwingli offered to pay the Beguines an equivalent sum to prevent Frau Göldli from having to replace the icon she destroyed. The Erfurt “Parson Storm” of 1521 is translated from the German *Pfaffenstürmen*.)

<European History>

9. This character mockingly declares, “See whether *my* spear is more penetrating,” immediately before killing his young opponent. When analyzing this character’s death, three different explanations for the word “indignata” are suggested in a commentary by Servius. This character’s death has troubled scholars by seemingly indicating the final triumph of *furor* over *pietas*. This character is described “fleeing, resentfully, to the shadows below” in the final line of a twelve-book epic poem. This brother of Juturna is vengefully killed when the protagonist realizes that this character is wearing a belt taken from the dead Pallas. Juno encourages this character to declare war on the Trojans. For 10 points, name this primary mortal antagonist in the *Aeneid* (“ee-NEE-id”), which ends with Aeneas (“ee-NEE-ass”) killing him.

ANSWER: **Turnus**

<World Literature>

10. A museum (emphasize) *named for* this artist contains Alexander Calder’s *Mercury Fountain*. A painting by this artist was purchased by Ernest Hemingway, who made a roofless cab driver “crawl along” so it wouldn’t blow away. This artist learned from and collaborated with Josep Royo (“zhoo-ZEP ROY-oh”) on several tapestries, including one that was destroyed in the 9/11 attacks. A barren tree is located in the center of a painting of this artist’s family estate that is dominated by a clear blue sky. This artist took inspiration from Jan Steen (“yahn SHTAIN”) for two paintings in a series that exemplifies his desire to “assassinate painting.” A tree containing an eyeball sits against a yellow background in a more abstract painting by this artist of *The Farm*. For 10 points, name this Catalan artist of *The Tilled Field* and *The Harlequin’s Carnival*.

ANSWER: Joan **Miró** (“zho-AHN mee-ROH”) [or Joan **Miró** i Ferrà]

<Painting/Sculpture>

11. Mutations that cause this phenotype in maternal-effect genes are screened with double *FRT* chromosomes in the FLP-DFS technique. A visible marker and a gene that causes this phenotype are encoded on constructs like *CyO* and *TM3* that contain inversions to prevent crossover. Nüsslein-Volhard and Wieschaus isolated pattern mutants among those in which this phenotype was “embryonic.” PARP (“parp”) inhibitors for ovarian cancer exploit mutations in functionally redundant genes that make this phenotype “synthetic.” Geneticists propagate mutations that cause this phenotype when homozygous by using balancer chromosomes. Postzygotic barriers to hybridization cause infertility or this phenotype, which results from knockout of an essential gene. For 10 points, 50% of drug test subjects at the LD₅₀ (“L-D-50”) undergo what fate that results from terminal illness?

ANSWER: **lethality** [or equivalents like **death** or **fatality** or **inviability** or word forms; accept **toxicity**; accept **failure** to **hatch** or equivalents; accept specific types, such as embryonic **lethal**; prompt on deleterious or harmful or similar; prompt on sterility or infertility or word forms before “infertility” by asking “what more immediate phenotype?”]

<Biology>

Note to moderator: Read the answerline carefully.

12. The idea that these people should be first to worry about the world's troubles and last to enjoy its pleasures was a motto of the 11th-century author of a memorial to a tower. These people collected "four treasures," like a stone slab and soot stick, and practiced the amateur Southern School of painting. These people, who wore winged fútóu hats, were mocked in an unofficial history by Wú Jìngzǐ ("oo jing-dzuh"). Joseon's Hungu faction led purges of Jo Gwangjo's "forest" of these people, the seowon ("SUH-wun")-based Sarim. Sejong ("SAY-jong") the Great created the Hall of Worthies for these people, who ascended the Gwageo ("GWAH-guh") system to the status of yangban. These people received the jìnshì ("jin-shur") rank by mastering neo-Confucian tasks like the "eight-legged essay" based on Zhū Xī's ("joo shee's") Four Books. For 10 points, Sòng China was run by what elites who passed the civil service exams?

ANSWER: **scholars** [or **literati** or **wénrén**; or **mandarins** or **guān**; or scholar-**officials** or scholar-**bureaucrats** or **scholar-gentry**; or shēnshì or shìdāfū; accept **civil servants** before "civil service"; accept **Sarim** before read; accept **yangban** before read; prompt on **elites** or **gentry** or similar] (The first line refers to Fàn Zhōngyān and his *Memorial to Yuèyáng Tower*.)

<World History>

13. In a novel by this author, the narrator claims that the Tree of Life and the Tree of Knowledge were the same, and a woman gets a button from a peddler who disguises himself as a "neuro-hypnotist"; that novel by this author was based on an anecdote told by Susanna Moodie, whose diaries inspired a poetry collection by her. In another novel by this author, a woman who was possessed by Mary Whitney confesses to two murders; that character is Grace Marks. This author created a woman who writes the *Ardua Hall Holograph* and works at the Red Center. Two novels by this author end with notes by the history professor James Pieixoto ("py-ix-OH-toh") about Aunt Lydia and Offred's tapes. For 10 points, name this author of *Alias Grace*, *The Testaments*, and *The Handmaid's Tale*.

ANSWER: Margaret **Atwood** [or Margaret Eleanor **Atwood**]

<British Literature>

14. In a review of the trios of Alexander Fesca, this critic warned composers of the "poisonous flowers" represented by "the applause of the vulgar crowd." A famed passage by this non-Wagner critic dismisses the "vulgar spectacle" of *Les Huguenots* ("lay oog-NOH") when compared to the "pure work of art" represented by the *Paulus* oratorio. This man's ambitions as a pianist were dashed when the use of a mechanism meant to separate his fingers left him with a permanent injury. This man often blasted other critics for "philistinism" in his publication, the *New Journal for Music*. This composer cultivated the alter egos of Florestan ("FLUH-ree-stan") and Eusebius, who make appearances in a set of piano pieces depicting masked revelers before Lent. For 10 points, name this influential Romantic composer who wrote *Carnival* and married Clara Wieck ("VEEK").

ANSWER: Robert **Schumann**

<Classical Music>

15. The biography of Lǐ Hóngzhì ("hung-JURR") relates how the characters of zhēn, shàn, and rěn were printed on one of these objects belonging to Lǐ to emphasize their centrality to the Fǎlún Gōng. Fifty examples of these objects, usually depicted along with sixteen rays of light, decorate the Holy See in Tây-Ninh north of Saigon. These objects are added to murti in the Jain and Hindu prāṇa pratiṣṭhā consecration rituals. One of these objects bound in a triangle is the primary symbol of God in Cao Đài tradition. The Ājñā ("ODGE-nyah") chakra corresponds to one of these objects that can be represented with the tilaka marking. In Vedic tradition, Shiva turned all other gods to ash by revealing one of these objects on his forehead. For 10 points, spiritual insight is often associated with a "third" one of what body part?

ANSWER: **eyes** [accept **eyeballs**; accept third **eye**; accept left **eye** of God; accept **eyebrow**; accept **pupil** or **iris**]

<Religion>

16. *Description acceptable.* An inhabitant of this place is told, “No one is ever satisfied where he is,” and hears about children pressing their noses against the windows of passing trains. In this place, a character declares, “Let the tigers come with their claws!” before asking for a glass globe. A man’s presentation about this place is accepted only after he changes from Turkish to European clothes. Locations near this place contain a king who orders a character to yawn, a conceited man, and a businessman. The narrator worries that because he did not draw a strap for a muzzle, an inhabitant of this place has been eaten by a sheep. An inhabitant of this place falls in love with a rose and meets a pilot who crashes in the desert. For 10 points, name this home of the title character of a book by Antoine de Saint-Exupéry (“sahnt egg-zoo-per-EE”).

ANSWER: the **Little Prince’s asteroid** [or the **Little Prince’s planet**; or the **planet** in *Le Petit Prince*; or the **asteroid** in *Le Petit Prince*; or **B-612**; prompt on the home of the Little Prince; prompt on outer space; reject “the desert from *The Little Prince*” or similar]

<European Literature>

17. The allowed combinations of airfoil technology factor, lift coefficient, airfoil thickness to chord ratio, and a form of this quantity can be deduced using an empirical rule developed by Dave Korn. The point where the derivative of the drag coefficient with respect to this quantity is 0.1 defines its drag-divergence value. The Lockheed P-38 Lightning experienced a phenomenon where a plane enters a stable dive as this quantity reaches a critical value. When this quantity equals unity, the mass flow rate through a throat is not influenced by downstream conditions and the flow is choked. When this quantity exceeds 0.3, compressibility becomes important. As this quantity increases past 1, bow waves appear ahead of wings. For 10 points, name this ratio of a body’s speed to the local speed of sound.

ANSWER: **Mach number** [prompt on M or Ma; reject “Mach”] (The phenomenon in the third sentence is a Mach tuck.)

<Physics>

18. A 2017 paper about this group by Pedro J. Oiarzabal and Guillermo Tabernilla claimed that rumors that jai alai (“HAI uh-lai”) players were recruited into it were Basque nationalist myths. This group’s activities were detailed in a memoir by Chester Nez. The missionary Philip Johnston convinced Clayton Vogel to establish this group at Camp Pendleton. A statue of a member of this group crouching is part of a memorial to them at Window Rock. This group, which began with 29 members sworn in at Fort Wingate, referred to Germans as “iron hats,” or “Bééshbich’ahíí” (“PAYSH pitch-ah-hee”). This group described “submarines” as “iron fish” in over 800 messages coordinating landings at Iwo Jima. Japanese intelligence was unable to decipher the language of, for 10 points, what Native American military translators?

ANSWER: **code talkers** [accept specific groups, such as Navajo **code talkers** or Diné **code talkers** or Hopi **code talkers** or Choctaw **code talkers**; prompt on the Navajo or Diné]

<American History>

Note to moderator: read the answerline carefully.

19. In the aftermath of this event, a coalition of international ambassadors called the Core Group backed a neurosurgeon over a graduate of the New School. Mario Antonio Palacios and other participants in this event claim that they were hired by CTU Security, which is also connected to Operation Gideon. In response to this event, the national police chief has issued an arrest warrant for the current Tèt Kale (“tet kah-lay”) party leader. Public protests after this event were led by Jimmy “Barbecue” Cherizier (“shar-riz-ee-ay”), head of the G9 alliance. Colombian mercenaries helped carry out this July 2021 event, which led to a power struggle between Claude Joseph (“clod zhoh-sef”) and Ariel Henry (“ar-ee-el awn-ree”). For 10 points, name this event in which armed men murdered the president of Haiti.

ANSWER: **assassination** of Jovenel **Moïse** (“ZHOH-ven-el moh-EEZ”) [accept any description of Jovenel **Moïse** being **killed**; prompt on descriptions that do not mention Jovenel Moïse by name, like the **assassination** of the **president** of **Haiti** or **leader** of **Haiti** before “president”; prompt on descriptions of a **coup** in **Haiti** or similar; reject descriptions that mention the “prime minister” or “PM” of Haiti]

<Current Events>

20. Daniel Gilbert created an app for users to track this trait and negatively correlated it with mind wandering. Jamie L. Napier and John T. Jost found that this trait is now generally higher in conservatives than liberals. A 2021 World Gallup report found that this trait increased in Kyrgyzstan, where Carol Graham found that it is unusually high for migrants in her studies of the “Easterlin paradox.” Barbara Frederickson’s broaden-and-build theory of this trait built on a retracted 3-to-1 ratio below the “Losada line.” Yale’s Laurie Santos hosts a podcast on the psychology of this trait, which Corey Keyes contrasted with “languishing” and rooted in personal growth. Jigme Singye Wangchuck promoted measuring this trait instead of GDP in Bhutan. For 10 points, positive psychology studies what basic emotion?

ANSWER: **happiness** [or being **happy**; accept subjective **well-being** or **eudaimonia**; accept similar emotions like **joy** or **delight** or **pleasure** or **satisfaction**; accept **positive** affect before “positive”; accept **flourishing**; accept gross national **happiness**]

<Social Science>

Tiebreaker. This amino acid’s side chain is selectively modified by dicarbonyl (“dai-car-buh-NEEL”) compounds like 2,3-butanedione (“byoo-TAIN-DAI-own”) and phenylglyoxal (“phenyl-gly-ox-al”). This amino acid is dimethylated to form an “asymmetric” regulator of vascular endothelium by type 1 PRMTs. Like leucine (“LOO-seen”) and serine (“SEER-een”), this amino acid is encoded by six standard codons. This residue is converted into a common non-proteinogenic amino acid named for watermelon by deiminases (“dee-IM-in-azes”). A vasodilator is released when this amino acid is converted to citrulline (“SIT-roo-leen”) by nitric oxide synthase. This amino acid is hydrolyzed into ornithine and urea (“yer-ee-uh”). At pH 7, this amino acid’s side chain contains a protonated guanidinium (“guan-i-DIN-ium”) group. This is the heaviest of the three positively charged, basic amino acids, which also include histidine and lysine. For 10 points, name this amino acid abbreviated R.

ANSWER: **arginine** [or L-**arginine**; or **Arg**; or **2-Amino-5-guanidinopentanoic acid**; or **R** before read; accept asymmetric dimethyl**arginine**] (PRMTs are protein arginine *N*-methyltransferases. Citrulline was isolated from watermelon, whose genus name is *Citrullus*.)

<Biology>

BONUSES

1. The so-called “monk of poetry,” Amado Nervo, published the collections *Serenidad* and *Plenitud* while serving as the Mexican ambassador to this country. For 10 points each:

[10h] Name this country where the French poet Comte de Lautréamont was born. Another French poet born in this country wrote the collection *The Imitation of Our Lady the Moon*.

ANSWER: **Uruguay** [or Oriental Republic of **Uruguay** or República Oriental del **Uruguay**] (The other author is Jules Laforgue.)

[10m] In 1894, Nervo founded a *modernismo* literary magazine with this name. A collection of short stories and poetry with this one-word title was the first major work published by Rubén Darío.

ANSWER: **Azul** [or **Blue**]

[10e] Fernando Vallejo (“vah-YAY-ho”), a Mexican writer who was born in this country, wrote *The Blue Days*. The experimental film *The Blue Lobster* was written and directed by an author from this country, Gabriel García Márquez.

ANSWER: **Colombia** [or Republic of **Colombia** or República de **Colombia**]

<World Literature>

2. This composer used heavy left-hand block chords to imitate the sound of the title West African drum in his piano piece “Bamboula.” For 10 points each:

[10h] Name this 19th-century virtuoso pianist who composed the melodramatic showpiece “The Union,” which he played at hundreds of Civil War–era concerts.

ANSWER: Louis Moreau **Gottschalk** (“Louie muh-ROH GOT-shalk”)

[10e] Gottschalk’s “The Union” quotes this song. This song wasn’t adopted as the US national anthem until 1931, over a hundred years after its lyrics were written by Francis Scott Key.

ANSWER: “The **Star-Spangled Banner**”

[10m] Gottschalk incorporated syncopated rhythms into a piano piece titled for this string instrument, which appears in William Grant Still’s *Afro-American* Symphony. This is the primary instrument played by Earl Scruggs and Béla Fleck, who composed *The Imposter* concerto for it.

ANSWER: **banjo** [accept “The **Banjo**”; accept five-string **banjo** or four-string **banjo** or six-string **banjo**; accept tenor **banjo**]

<Classical Music>

3. The East German state reserved five-star examples of these institutions for visitors from nonsocialist states, only affording four-star locations to those traveling from the Eastern bloc. For 10 points each:

[10e] Name these institutions whose high-end examples included a “grand” one in Berlin and the Bellevue in Dresden.

ANSWER: **hotels** [accept Grand **Hotel** Berlin; accept **Hotel** Bellevue]

[10h] The state-run Interhotel company, which operated most luxury hotels in East Germany, was bankrolled by a construction firm based in this country. After German reunification, Daimler partnered with a firm incorporated in this country to buy a majority stake in Fuso, a truck and bus manufacturer.

ANSWER: **Japan** [or **Nippon** or **Nihon**] (The construction firm is Kajima Corporation. Daimler partnered with Mitsubishi.)

[10m] The preservation of communist-style hotels exemplifies a form of nostalgia for East Germany termed *Ostalgie*, which also inspires fondness for this brand of shoddy East German automobiles.

ANSWER: **Trabant** [or **Trabi**]

<European History>

4. Experiments with these techniques typically use a formaldehyde cross-linking solution to fix cells, which are then lysed so that DNA ends can be biotinylated (“bio-TIN-ill-ated”) and ligated (“LAI-gait-ed”) to nearby fragments by T4. For 10 points each:

[10h] Name any of these related techniques that identify long-range looping interactions between regions of chromatin (“KROH-muh-tin”), such as between a promoter and a distal enhancer. These techniques may detect one-versus-all or all-versus-all interactions.

ANSWER: chromosome **conformation capture** [or **3C**; or **4C**; or **5C**; or **Hi-C** or **Capture-C**; accept tethered **conformation capture** or **TCC**; prompt on **ChIA-PET**; prompt on high-throughput **sequencing** or **HTS** or **microarray** by asking “what technique is it paired with to detect those interactions?”]

[10m] Chromosome conformation capture can map the positioning of these units that are likened to “beads on a string.” These repeating units in euchromatin comprise around 150 base pairs of DNA wrapped around a histone octamer.

ANSWER: **nucleosomes**

[10e] Oliver Rando’s group found long nucleosome-free regions conserved in the promoters of the *paradoxus* and *bayanus* species of these model eukaryotes (“yoo-CARE-ee-oats”). These unicellular fungi can shmoo, switch mating types, and ferment beer.

ANSWER: **yeast** [accept brewer’s **yeast** or baker’s **yeast** or *Saccharomyces cerevisiae*; accept *Saccharomyces paradoxus*; accept budding **yeast** or **Saccharomycotina**; prompt on **Ascomycota** or **sac** fungi]

<Biology>

5. *Note to players: animal and color required.* Savitri Devi (“SAH-vit-ree DAY-vee”) claimed that Adolf Hitler was Kalki, an avatar of Vishnu who owned one of these animals and who will bring about the end of the Kali Yuga. For 10 points each:

[10m] Name these animals, another of which appears at the head of the armies of Heaven with the “king of kings and lord of lords” in Revelation 19. One of these animals appears with Rhiannon when she first meets Pwyll (“pwil”).

ANSWER: **white horses** [or **white equines**; prompt on **horse** or **equine** by asking “what color is the horse?”]

[10e] Earlier in Revelation, a figure sometimes identified as Jesus or Pestilence rides a white horse at the head of a group concluding with this figure on a pale horse. This figure, often depicted with a scythe, is tailed by Hades.

ANSWER: **Death**

[10h] The Iranian rain deity Tishtrya, associated with this star, fought the demon Apausha as a white stallion. Dogon men spend months in seclusion in preparation for the *sigui* ceremony commemorating the appearance of this star.

ANSWER: **Sirius** [accept the **Dog Star**]

<Mythology>

6. In a novel by this author, a character joins a religious cult led by Father Peace and insists on being called Brother Boyce. For 10 points each:

[10h] Name this author who wrote a coming-of-age novel about Selina Boyce, who lives in one of the title buildings that her mother wishes to own. This author's father was a Barbadian immigrant, much like the protagonist's father in her novel *Brown Girl, Brownstones*.

ANSWER: Paule ("Paul") **Marshall** [or Valenza Pauline **Burke**]

[10e] Father Peace in *Brown Girl, Brownstones* was perhaps inspired by Brother Jack, the leader of "the Brotherhood" in this novel by Ralph Ellison.

ANSWER: **Invisible Man**

[10m] Marshall's memoir of her time as a writer is titled for a "triangular" one of these structures. In another novel titled for one of these structures, an unnamed father convinces his son that they are "the good guys."

ANSWER: a **road** [accept *The Road*; accept *Triangular Road*] (*The Road* is by Cormac McCarthy.)

<American Literature>

7. Answer the following about the Moroccan photographer Hassan Hajjaj, for 10 points each.

[10e] Hajjaj's bright colors and usage of empty cans in his artworks earned him the nickname of "[this artist] of Marrakech." Hajjaj named his fashion brand for this Pop artist who screen printed Campbell's soup cans.

ANSWER: Andy **Warhol** [or Andrew **Warhola**]

[10m] Hajjaj's *Rockstars* photo series appears as these images. The "First World's Third World Mona Lisa" is a nickname for one of these images that depicts Sharbat Gula wearing a red scarf.

ANSWER: **magazine cover** [accept covers of specific magazines, such as a **Vogue cover** or a **National Geographic cover**; prompt on **covers**] (The second sentence is about "Afghan Girl" on the cover of *National Geographic*.)

[10h] Hajjaj uses found objects to create his own take on the *zellige* tradition of these objects in North Africa, which in turn inspired Iberian *azulejos*. The haft rang technique for the *giri* form of these objects is frequently used in mosques.

ANSWER: **tiles** [or word forms such as **tiling**; prompt on **mosaics**]

<Other Fine Arts>

8. This reaction follows a Michael addition in the second step of the Robinson annulation. For 10 points each:

[10m] Name this condensation reaction in which an enol ("EEN-all") or enolate combines with a carbonyl ("car-bo-NEEL") to form an enone ("EE-nohn").

ANSWER: **aldol** condensation [accept **aldol** reaction]

[10e] In the final step of the aldol condensation, a hydroxy ketone or aldol forms an enone via one of these elimination reactions. Sugar monomers combine to form polysaccharides via this type of reaction, resulting in the loss of one oxygen and two hydrogens.

ANSWER: **dehydration** reaction

[10h] *Two answers required.* The enolate-forming step in the aldol condensation can be performed under either of these *two* control mechanisms. One regime uses a low temperature and sterically hindered base, resulting in the favored pathway having lower activation energy, while in the other regime, the favored product is more stable.

ANSWER: **kinetic** control [or **kinetic** conditions] AND **thermodynamic** control [or **thermodynamic** conditions] [accept in either order]

<Chemistry>

9. Answer the following about women's activism in West Africa, for 10 points each.

[10e] Stella Obasanjo and Efua Dorkenoo campaigned against women undergoing this practice, which Thomas Sankara banned. Ousmane Sembène's film *Moolaadé* criticized this surgery, which *Facing Mount Kenya* defended as a Kikuyu ("gih-KOO-yoo") tradition.

ANSWER: female **genital mutilation** [or **FGM/C**; or female **circumcision**; accept genital **cutting** or **gishiri** cutting; accept **infibulation** or **clitoridectomy** or descriptions thereof]

[10m] Funmilayo Ransome-Kuti of the Abeokuta Women's Union earned this title that was given to "warrant" officials who were "sat on" in the 1929 Igbo ("EE-boh") "Women's War." Rulers like Charles Atangana and Moshoeshoe I ("mu-SHWAY-shway the first") were styled as "paramount" ones.

ANSWER: **chiefs** [accept **chiefdoms** or **chieftains** or **chieftainships**; accept paramount **chiefs** or Ober**häuptlinge**; accept warrant **chiefs**; accept **Oloye**]

[10h] In 1977, women protested this country's "economic police" in Marché Madina. The historian Jean Suret-Canale taught in this bauxite-exporting country, the only former colony to vote for full independence in a 1958 referendum.

ANSWER: **Guinea** [or **Guinea-Conakry**; or Republic of **Guinea** or République de **Guinée**; accept French **Guinea** or **Guinée** française; reject "Guinea-Bissau" or "Equatorial Guinea" or "French Guiana" or "Guyana" or "New Guinea"]

<World History>

10. One of these objects is the only surviving remnant of Constantinople's Milion, a building used as the origin for measuring distances in the Byzantine Empire. For 10 points each:

[10m] Name these objects that include the natural Katskhi beneath a Georgian monastery. Standing on these objects for long periods became a fad among ascetic Byzantine anchorites after Saint Simeon Stylites did so for 37 years.

ANSWER: **pillars** [or **columns**; accept Katskhi **pillar**; prompt on **monoliths**; prompt on **rocks** or **stones**]

[10h] Another eccentric Simeon became the patron saint of puppeteers in recognition of his exploits as one of these people, who pretended to be insane to break social norms in imitation of Jesus. Famous examples of these people include John the Hairy and John of Moscow.

ANSWER: **holy fools** [or **fools** for **Christ**; or **yuródivvy**; or **holy folly** or **foolishness for Christ**; accept **samos** or **salos**]

[10e] The deeds of perhaps the first holy fool, the Egyptian nun Isidora Barankis, are recorded in the *Lausiac History* of the ascetic "mothers" and "fathers" of this type of place, where Jesus is tempted by Satan for 40 days and 40 nights.

ANSWER: **deserts** [accept **desert** fathers or **desert** monks or **desert** mothers; accept Judean **Desert** or **Midbar** Yehuda; accept Egyptian **Desert** or **Desert** of Scetis or Nitrian **Desert**; prompt on **wilderness**]

<Religion>

11. Answer the following about developments in the advertisement industry in the early 20th century, for 10 points each.

[10m] As part of an ad campaign for a product named after this man, Gerald Lambert revived the word "halitosis." This man pioneered the use of carbolic acid to sterilize equipment as part of his work in antiseptic surgery.

ANSWER: Joseph **Lister** [or Joseph Lister, Baron **Lister** of Lyme Regis; accept **Listerine**]

[10e] John B. Watson promoted the idea of a "break" for this product as part of his work with Maxwell House. After the Boston Tea Party, revolutionaries were encouraged to consume this product instead of tea.

ANSWER: **coffee** [accept **coffee** break]

[10h] Ruth Hale used this three-word phrase to describe cigarettes, asking women to "fight another sex taboo." Edward Bernays popularized this three-word phrase to encourage women to smoke in public.

ANSWER: "**torches of freedom**" [or "**torch of freedom**"]

<American History>

12. This concept is one of the “five eternal” principles posited by Abu Bakr al-Razi, along with God, soul, matter, and place. For 10 points each:

[10e] Name this concept that some Islamic thinkers believed was made up of indivisible atom-like units, in contrast to a view of this concept as a continuous stream analogized to an “arrow.”

ANSWER: **time** [accept **zaman**; accept **space-time**]

[10h] Al-Jubba’i wrote that time was simply a divine stipulation of coordinated events by giving the example of Zayd arriving at the same time as one of these events. Pierre-Simon Laplace (“luh-PLOSS”) first introduced a “problem” named for this sort of event concerning the difficulty of using probability theory to assess beliefs.

ANSWER: **sunrise** [accept the **sun** coming **up**; accept will the **sun rise** tomorrow; accept **dawn** or **daybreak**]

[10m] This Islamic philosopher clarified how God could create objects at different times by distinguishing between time, perpetuity, and eternity. This thinker formulated the Proof of the Truthful and the Floating Man argument.

ANSWER: **Avicenna** [or Ibn **Sina** or Abu Ali **Sina** or Pour **Sina**]

<Philosophy>

13. Answer the following about Fermi surfaces, surfaces of constant energy in k -space separating occupied and unoccupied energy levels at zero Kelvin, for 10 points each.

[10e] Allan Mackintosh suggested that the most meaningful definition of these materials is “solid[s] with a Fermi surface.” Iron, lithium, and platinum are examples of these materials that are good conductors of heat and electricity.

ANSWER: **metals** [accept alkali **metals**; accept transition **metals**]

[10m] A zone scheme with this property best displays the connectivity of Fermi surfaces, while the reduced zone scheme better shows their structure. Bloch wave functions describe electrons in potentials with this property.

ANSWER: **periodicity**

[10h] Fermi surfaces and other features in k -space can be mapped by determining band dispersion relations with this technique. This technique shoots monochromatic light at a sample and then measures the kinetic energy and angle of electrons emitted via the photoelectric effect.

ANSWER: **ARPES** (“ar-press”) [or **angle-resolved photoemission spectroscopy**; or **angle-resolved photoelectron spectroscopy**; prompt on **PES** or **photoemission spectroscopy** or **photoelectron spectroscopy**]

<Physics>

14. Dub poet Jean Breeze performed a monologue as this character “speak[ing] in Brixton Market,” and another play depicts her as a woman wearing a red dress in the Sir Colin Campbell Pub in Brent. For 10 points each:

[10h] Name this character who is shown in “Willesden” in a 2021 play. In her original appearance, this character says, “I know well that Abraham was a holy man, and Jacob as well,” to defend her actions.

ANSWER: **Wife of Bath** [or **Alisoun** or **Alvita**; accept *The **Wife of Willesden***; prompt on **wife**]

[10m] This author adapted the Wife of Bath’s Prologue for the stage in *The Wife of Willesden*. This author of the books *Feel Free* and *Swing Time* wrote herself into the play as an overly apologetic author in the pub.

ANSWER: Zadie **Smith** [or Zadie Adeline **Smith** or Sadie Adeline **Smith**]

[10e] The Wife of Bath was originally created by this author of *The Canterbury Tales*.

ANSWER: Geoffrey **Chaucer**

<British Literature>

15. The Santa Maria della Vita in Bologna houses a Niccolò dell'Arca sculpture of the Lamentation in this medium. For 10 points each:

[10m] Name this material that is glazed and painted using ancient techniques whose rediscovery is credited to Luca della Robbia. This material was often used for creating smaller models of larger metal sculptures.

ANSWER: **terracotta** [accept tin-glazed **terracotta**; prompt on **clay**; prompt on **ceramics**; prompt on **earthenware**]

[10h] The early terracotta sculptor Niccolò dell'Arca may have been influenced by this limestone sculpture in the Hospitaller La Chartreuse in Dijon. This only surviving work by Claus Sluter depicts Daniel and Ezekiel against two of its six sides.

ANSWER: **Well of Moses** [or **Puits de Moïse**]

[10e] An ancient terracotta sculpture is named for a person from Cernavoda performing this action. An Auguste Rodin sculpture of a man resting his chin on his hand is titled for this action.

ANSWER: **thinking** [accept *The **Thinker*** or *Le **Penseur***; accept **Thinker** of Cernavoda or **Gânditorul**]

<Painting/Sculpture>

16. Michiel Baas's ethnography of this activity in India argues that it provides social capital to lower-middle-class Jat and Gurjar people. For 10 points each:

[10m] Name this activity that involves "visualization" to achieve mental "connection" during the intense pre-contest phase. This activity was promoted by Charles Atlas's mail-order course and a 1977 docudrama about Lou Ferrigno.

ANSWER: **bodybuilding** [or weight **lifting**; or power**lifting**; or building **muscle**; or **body sculpting**; or word forms or equivalents; accept **bulking**; prompt on **athletics** or **fitness** or similar; prompt on **cutting**] (The documentary is *Pumping Iron*. Baas's book is *Muscular India: Masculinity, Mobility & the New Middle Class*.)

[10h] In addition to body dysmorphic disorder, bodybuilders are often labeled with this unofficial eating disorder. This proposed condition involves limiting one's diet to "clean," healthy foods like organic produce and lean protein.

ANSWER: **orthorexia** nervosa

[10e] Orthorexia is often blamed on apps that allow users to track macronutrients and log this behavior. Brands like Perrier created a widely believed myth that this action should be performed 8 to 10 times a day for proper hydration.

ANSWER: **drinking** glasses of **water** [or **drinking H₂O** or equivalents; prompt on **drinking** or equivalents]

<Social Science>

17. Answer the following about difficulties faced by mothers during the COVID-19 pandemic, for 10 points each.

[10e] The New York Times's Primal Scream project allowed mothers to vent frustrations over one of these things. The *British Medical Journal* found that a 2018 Logic song prevented 245 suicides by raising awareness of one of these always-staffed phone numbers.

ANSWER: **hotline** [accept **lifeline**; accept suicide **hotline** or National Suicide Prevention **Lifeline**; prompt on **1-800-273-8255** with "what is the number to?"]

[10h] The majority of childcare responsibilities during the pandemic fell on mothers, whose unpaid household labor is a "double burden" described by this two-word term that titles a study of marital leisure gaps by Arlie Hochschild.

ANSWER: "**second shift**" [accept *The **Second Shift***]

[10m] In December 2021, nursing mothers at this company reported breast milk being stolen from company refrigerators. A November 2021 employee misconduct lawsuit was filed against this company headed by Bobby Kotick before its 68.7 billion-dollar acquisition by Microsoft.

ANSWER: Activision **Blizzard** [or **Activision** Blizzard]

<Other Academic>

18. A confusion matrix evaluates the performance of a model built for this task. For 10 points each:

[10e] Name this task of assigning a categorical label to input data based on the input data's features. For example, an algorithm for this task could assign an email a label of "spam" or "not spam."

ANSWER: **classification** [or **classifying**]

[10h] UC Irvine first published this data set that is commonly used to introduce students to writing classifiers. This data set has 50 samples of the length and width of the sepals and petals of the three species *setosa*, *virginica*, and *versicolor*.

ANSWER: **Iris** data set [or **Iris** flower data set; or Fisher's **Iris** data set; or Anderson's **Iris** data set]

[10m] A simple classification procedure passes the inner product of the model's weight vector and an input vector to this function and then uses a decision rule to assign the input to one of two classes. This function has the form (read slowly) one over, quantity, one plus e to the minus x , end quantity.

ANSWER: **logistic** function [accept **logistic** regression; prompt on **sigmoid**; reject "logit"]

<Other Science>

19. In a story from this collection, a Jewish tailor's apprentice is fired for cruelly murdering a skunk and then assigned by Aimicke ("AIM-ih-kay") to murder the girl with "the face of a traitor." For 10 points each:

[10h] Name this collection of stories by Danilo Kiš ("dah-NEE-loh KEESH") that includes "The Knife with the Rosewood Handle." In this collection's title story, Fedukin ("FED-oo-kin") wishes to prevent the title character from writing the final page of his biography.

ANSWER: *A Tomb for Boris Davidovich* [or *Grobnica za Borisa Davidoviča*]

[10m] Danilo Kiš's collection *A Tomb for Boris Davidovich* contains the story "The Mechanical Lions," which was written in homage to this author of *Strait Is the Gate*. In another novel by this French author, Michel pursues Arab boys, such as Moktir.

ANSWER: André **Gide** ("zheed") [or André Paul Guillaume **Gide**] (The unnamed novel is *The Immoralist*.)

[10e] In the story "The Magic Card Dealing" from *A Tomb for Boris Davidovich*, a card game in one of these places decides a murder. Aleksandr Solzhenitsyn set *One Day in the Life of Ivan Denisovich* in one of these places.

ANSWER: **gulags** [prompt on Soviet **prisons** or prison **camp**s or penal **camp**s or forced labor **camp**s]

<European Literature>

20. This period resulted from a "perfect storm" of natural disasters and foreign invaders, according to an Eric Cline book titled for the year when this period began. For 10 points each:

[10m] Name this period during which the Sherden and Shekelesh raided the eastern Mediterranean. During this period, the Peleset people mentioned in Egyptian inscriptions likely settled in the Levant, becoming the Philistines.

ANSWER: Late **Bronze Age collapse** [accept answers like **end** of the **Bronze Age**; prompt on **Bronze Age**] (Cline's book is titled *1177 BC: The Year Civilization Collapsed*.)

[10e] One of the factors in Cline's "perfect storm" is the cutting of trade routes necessary for importing tin to produce bronze, prompting a shift to using this metal during its "age" after the Bronze Age.

ANSWER: **iron** [or **Fe**; accept **Iron** Age]

[10h] The theory that an invasion by the Sea Peoples caused the Late Bronze Age collapse is supported by a king of this city, Ammurapi, urgently requesting aid from a king of Alashiya in Cyprus. Scholars now reject the idea that such a tablet was left half-baked in a kiln as invaders overran this city.

ANSWER: **Ugarit** [or **'Ugart**]

<Other History>

Extra. John Fowles's novel *The Magus* was inspired by the Spetses mansion of this woman, whose Epirote ally Hatzimichalis Dalianis allegedly lives on among the ghostly Drosoulites, or dew shadows, of the Frangokastello. For 10 points each:

[10h] Name this 19th-century Greek naval commander who captained the *Agamemnon* and funded the Filiki Eteria ("fee-lee-KEE et-air-REE-uh") after pirates killed her husband. Madame Hortense is nicknamed for this woman in *Zorba the Greek*.

ANSWER: Laskarina **Bouboulina** [or Laskarina **Pinotsis**]

[10m] Bouboulina was often compared to this historical region's ancient pirate queen Teuta, who titles a nationalistic Dimitrija Demeter play. Croatia and Slovenia's national revival was named for this region, the setting of *Twelfth Night*.

ANSWER: **Illyria** [or **Illyris**; accept **Illyricum**; accept **Illyrian** movement or **Iirski** pokret or **Iirsko** gibanje; prompt on **Dalmatia** or **Liburnia**; prompt on **Balkan** Peninsula]

[10e] Albanian nationalists also claimed descent from the Illyrians after Naum Veqilharxhi created one of these things to replace the Toghri and Elbasan. Serbo-Croatian can use either a Latin one or a Glagolitic-derived Cyrillic system.

ANSWER: **alphabets** [accept **scripts** or **writing** systems or **letters** or equivalents; or **alfabeti**; accept Latin **alphabet** or Roman **alphabet**; accept Cyrillic **script**; accept Toghri **script** or Elbasan **script**]

<European History>