

2019 Terrapin: Come on Angel, Come and Save Us

Packet 11

Edited by Weijia Cheng, Jordan Brownstein, Graham Reid, Caleb Kendrick, and Ophir Lifshitz, with assistance from Andrew Wang

Questions by Graham Reid, Caleb Kendrick, Alex Echikson, Ani Perumalla, Weijia Cheng, Justin Hawkins, Jason Shi, Vishwa Shanmugam, Jack Lewis, Jack Nolan, Jordan Brownstein, Sarang Yeola, and Naveed Chowdhury

Tossups

1. In order to encourage the passage of this legislation, some protesters attempted to cause a bank run, using the slogan, “To stop the Duke, go for gold!” Thomas Attwood formed the Birmingham Political Union to agitate for this legislation, the blocking of which led to a period of unrest called the Days of May. This legislation was passed after William IV gave (*) Earl Grey the authority to appoint more Liberal peers to the House of Lords. As a result of this legislation, a ruined town called Old Sarum stopped being represented by two seats in Parliament; Old Sarum was one of the “rotten borough” election districts that this legislation eliminated. For 10 points, name this Act of Parliament passed in 1832 that redistributed seats in Parliament and expanded the voter franchise.

ANSWER: **Reform Act** 1832 [or **Representation of the People Act** 1832; or **Reform Bill**; or Great **Reform Act** or First **Reform Act**; accept **Reform Bills** or **Reform Acts**; do not accept any answers giving an incorrect year]
<WC, European History>

2. A poem from this country ends with the speaker declaring, “for one moment of peace, I would give the peace of the tomb.” This country was home to a symbolist poet who wrote the anti-memoir *The Noise of Time* and a poem that describes a man with fingers “bulky and fat like live-baits” who forges “his rules and decrees like horseshoes.” In another poem from this country, a woman with bluish lips asks the speaker, “Can you describe this?” in a section entitled (*) “Instead of a Preface.” That poem from this country describes the 17-month imprisonment of its author’s son. That poet from this country wrote “Poem Without a Hero” and “Requiem.” For 10 points, name this country home to Osip Mandelstam, who mocked one of its leaders in his “Stalin Epigram.”

ANSWER: **Soviet Union** [or **USSR**; prompt on Russia] (The other writer mentioned is Anna Akhmatova.)
<CK, European Literature>

3. A family of polynomials with this property are the irreducible characters of finite-dimensional representations of general linear groups. This adjective describes power sum and complete homogeneous polynomials that are related via Newton’s identities. The actions of a group G on a set X are the same as the group homomorphisms from G to this group of X . Hermitian matrices are the complex-valued analogues of matrices described by this term. (*) Dihedral groups are subgroups of groups named by this term, which consists of all permutations on a given number of items. In addition to reflexivity and transitivity, this is a property of equivalence relations. Matrices with this property are always diagonalizable, and are equal to their transpose. For 10 points, give this name for an object that can be divided into two mirror images.

ANSWER: **symmetric** [or word forms like **symmetry**] (The first clue is about Schur polynomials.)
<CK, Other Science: Mathematics>

4. In Irene Heim’s dissertation, this property is equated with a file change potential. Ray Jackendoff’s “Mentalist Postulate” holds that this property resides in “lexical conceptual structures.” This property is represented as a set of namesake postulates in an intensional logic in Montague (“MON-tuh-gyoo”) grammar. For an entire sentence, this property is simply a function of its constituents’ values, according to the principle of (*) compositionality. Noam Chomsky noted that the sentence “colorless green ideas sleep furiously” lacks this property, even though it is syntactically well-formed. A single lexical item corresponds to more than one of these

properties in polysemy (“puh-LISS-uh-mee”) and homonymy. For 10 points, give this term for the expressive content of a word or sentence, studied in semantics.

ANSWER: meanings [do not accept “semantics”]

<CK, Social Science>

5. In 2001, Ann Telnaes contrasted this character with what is almost a solid black square in a Pulitzer-winning editorial cartoon. This character was first introduced in a song by Redd Evans and John Jacob Loeb that emphasizes how this character gave up “sipping martinis, munching caviar.” In another depiction, this character was modeled on the Sistine Chapel’s Isaiah by Norman Rockwell, who showed this character eating a sandwich as this character’s feet rest on a copy of (*) *Mein Kampf*. In the best-known depiction of this character, she is shown rolling up her shirtsleeve, flexing her arm, and saying “We Can Do It!” For 10 points, what character was used on posters to encourage women to work in munitions factories during World War II?

ANSWER: Rosie the Riveter [prompt on partial answer]

<WC, American History>

6. Upon being discovered wearing a surgeon’s scrubs and a huge fake beard, a character in this novel tells a visitor that he will “do a Caesarean on the girl” before having tea with him. In this novel, a Bayer employee who learns to hate children with the help of his psychiatrist is among those who are killed by a fire at a monastery during an earthquake. This novel repeats the statement that one’s fifties is the “prime of life” in describing characters such as a star soccer referee and the founder of Rodent Exterminators, Inc. (*) Javier assists the protagonist of this novel during a taxi trip to find an official who’s willing to oversee the marriage of a minor to a divorcée. This novel’s even chapters consist of progressively confusing *radionovelas* written by Pedro Camacho. For 10 points, name this novel about an author’s romance with the title relative, a work of Mario Vargas Llosa.

ANSWER: Aunt Julia and the Scriptwriter [or La tía Julia y el escribidor]

<AP, World/Other Literature>

7. This complex includes a hall that is named after its ceiling’s resemblance to the hull of a boat. M. C. Escher became interested in tessellation after viewing tiles at this complex, which features stalactite vaulting in its Hall of the Two Sisters. This complex includes a large reflecting pool surrounded with green shrubbery in its Court of the Myrtles, which lies to the south of the Tower of (*) Comares (“ko-MAH-race”). This complex, which is connected to the gardens of the Generalife (“heh-neh-rah-LEE-fay”), includes a fountain resting on twelve marble lions in its Court of the Lions. The Duke of Wellington planted English elms in this palace complex during the Peninsular War. It was originally built by the Nasrid Dynasty. For 10 points, name this Moorish palace complex overlooking Grenada, Spain.

ANSWER: the Alhambra [or Calat al-Hamra]

<CK, Other Arts>

8. In the Lorenz gauge (“gayj”), the scalar and vector potentials obey a differential equation describing these phenomena, and the d’Alembertian (“dal-am-BARE-shin”) is an operator used to describe these phenomena. In cylindrical conductors, these phenomena can only exist above a cutoff frequency in either TE or TM modes. One type of these phenomena exists in materials composed of a core and a cladding, and their (*) evanescent type extends beyond the edge of a fiber. These things can be produced by oscillating dipoles or antennas. These phenomena obey a linear dispersion relation in free spaces, but their group velocity is related to c by the index of refraction when they propagate through a medium. For 10 points, name this classical radiation of the electromagnetic field.

ANSWER: electromagnetic waves [or guided waves or waveguides or wave equations; accept specific types of EM radiation such as radio waves; accept electromagnetic radiation until read; prompt on answers including light; do not accept “photons” because none of the clues relate to quantized electromagnetic waves]

<GR, Physics>

9. Two fragments from an alternate version of this text were supposedly discovered at Mar Saba by Morton Smith, who used those fragments to theorize the existence of a secret nocturnal baptism ritual. The last twelve verses of this book make up the “Longer Ending,” following an earlier ending in which three women “said nothing to anyone, for they were afraid.” Along with a collection of sayings called the (*) Q source, this book is used as a source in the two-source hypothesis, which assumes that this gospel was the first to be written, though some early Christians thought that this gospel was a summary of the Gospel of Matthew. For 10 points, name this shortest gospel, found in the New Testament between the two other Synoptic Gospels, Matthew and Luke.

ANSWER: Gospel of **Mark** [or Gospel According to **Mark**]

<WC, Religion>

10. The invocation “Clasp, Angel of the backward look” appears in a poem titled for this stuff that depicts Harriet Livermore as a “half-welcome guest” who would later travel to Jerusalem as a “crazy Queen of Lebanon.” A “gentle face – the face of one long dead” appears in a poem titled for this substance, in which a formation of it is compared to a mark that the speaker has worn “these eighteen years, through all the changing scenes” since the death by dress fire of his (*) wife. Longfellow wrote about a “Cross of” this substance, which the speaker wakes to “a universe of” in a long “idyll” by John Greenleaf Whittier. This substance appears as an adjective in the title of a poem that ends “and many miles to go before I sleep.” For 10 points, a Robert Frost speaker stops in a wood full of what substance?

ANSWER: **snow**

<JH, American Literature>

11. Dr. Ruth Shady is credited with discovering the oldest known civilization based in this modern-day country, which established the city of Caral. That civilization based in this country created the oldest known depiction of the “Staff God,” a motif common among this country’s ancient cultures like the Chavín (“cha-VEEN”). That civilization based in this country was the Norte Chico. Another ancient culture in this country, which made many water jars with stirrup spouts and portrait heads, was the (*) Moche (“MO-chay”). A culture located in this modern-day country created a series of geoglyphs including a depiction of a hummingbird. A civilization that was founded in this modern-day country was divided into four *suyus* or regions, which were centered at Cuzco. For 10 points, name this modern-day country that was home to the Nazca and Inca.

ANSWER: **Peru**

<AE, World History>

12. George Crumb drew on the frescoes in the Arena Chapel to compose a “little suite” for this time period, whose music inspired Ralph Vaughan Williams’s cantata *Hodie* (“HO-dee-ay”). The timpani unusually open a festive cantata written for this time period, *Jauchzet, frohlocket!* (“YOWKH-tsit FRO-lock-it”). Songs from this time inspired a “ceremony” composed by Benjamin Britten. This time titles a work whose sixth and final movement is a 12/8-time *Pastorale ad libitum*. That work is its composer’s (*) Concerto Grosso Opus 6, No. 8. It’s not Easter, but this time period inspired an oratorio by J. S. Bach that is actually six cantatas. This time of year titles the most famous concerto of Arcangelo Corelli. Handel’s *Messiah* is often performed during, for 10 points, what holiday whose celebration involves singing carols?

ANSWER: **Christmas** [or **Christmas Day** or **Christmas Eve**; accept **Christmas Oratorio** or **Christmas Concerto**]

<CK, Classical Music>

13. The heme-containing enzyme APX binds to this substance as part of its activity decomposing hydrogen peroxide. GULO is required for the synthesis of this biomolecule. Though it was originally isolated from adrenal gland tissue samples, the first plant-based isolation of this biomolecule used paprika peppers. This biomolecule is theorized to promote hydroxyproline synthesis and is a cofactor in the synthesis of (*) collagen.

A deficiency of this vitamin causes brown spots on the skin and bleeding from mucous membranes. Linus Pauling advocated for large doses of this vitamin and popularized its use as a cold remedy. For 10 points, scurvy is caused by a deficiency of what vitamin found in citrus fruits?

ANSWER: vitamin C [or ascorbic acid or ascorbate]

<GR, Biology>

14. Prisoners in this archipelago were forced to build a 300-foot-long rock wall now called the “Wall of Tears.” A pink lizard species and the lava cactus can be found on this archipelago’s highest peak, named after German scientist Theodor Wolf (“TEE-oh-dor VOLF”). The proliferation of goats in this archipelago contributed to the extinction of a species whose sole survivor, Lonesome George, died in 2012. This archipelago is governed from Puerto (*) Baquerizo Moreno (“ba-keh-REE-so mo-RAY-no”). Islands in this archipelago include Floreana and Isabela, which lies on the equator. Fauna native to these volcanic islands include some bird species whose beak shapes are cited as a classic example of adaptive radiation. For 10 points, name this set of Ecuadorian islands whose finches and tortoises were studied by Charles Darwin.

ANSWER: Galápagos Islands [or Islas Galápagos; or Archipiélago de Colón; or Columbus Archipelago]

<AP, Other>

15. A novel set in this nation includes a scene in which the title character is mauled by prostitutes after the drunken Granger drags him into the House of the Five Hundred Girls. In that novel, a journalist stationed in this country lies to his mistress that his Catholic wife in England has granted him a divorce. A character starts a plastics company in this nation that produces bicycle pumps that are filled with explosives. That character is inspired by the ideas of (*) York Harding in arguing that this country needs a “Third Force.” In a novel set here, Phuong (“FOO-ung”) becomes the center of a love triangle involving Alden Pyle and Thomas Fowler. For 10 points, Graham Greene set *The Quiet American* in what nation that gained its independence from the French in the Indochina War?

ANSWER: Vietnam [accept Indochina until read]

<CK, British Literature>

16. A general in this war dubbed a hill the “Mountain of Souls” in a poem after his forces captured 203 Hill during a siege in this war. This war was witnessed by several foreign observers like the British officer Ian Hamilton, who recorded his experience in *A Staff Officer’s Scrapbook*. During this war, General Kuropatkin managed to prevent the encirclement of his forces during his loss in Battle of (*) Liáoyáng. During a naval battle in this war, Admiral Rozhdestvensky’s Baltic Fleet was decimated after the opposing fleet “crossed the T” under the leadership of Togo Heihachiro. Theodore Roosevelt helped end this war by mediating the terms of the Treaty of Portsmouth. For 10 points, name this 1904 to 1905 war in which Russia was defeated by a rising East Asian empire.

ANSWER: Russo-Japanese War

<AE, European History>

17. A king asked this god to live in his stomach as a blessing, but was tricked into liberating this god from his gut by a dancing bull. This god fashioned a weapon to destroy a group of demons whose forts could never be attacked individually. This god flung a strand of his hair into a fire to create a warrior that beheaded this god’s father-in-law, who was given the head of a goat after lamenting his failure to invite this god and his first (*) wife to a ritual. This god, who is served by the *ganas* (“GUN-uhs”), beheaded a guardian of his wife’s bedchambers, not realizing that the guardian was his son. This god incinerated Kāma by opening his third eye after Kāma tried to mesmerize this god into falling in love with his second wife, Pārvati (“PAR-vuh-tee”). For 10 points, name this father of Ganesha who serves as the Hindu destroyer god.

ANSWER: Shiva [or Śiva; or Rudra]

<AP, Mythology>

18. A painting from this movement depicts a sundial casting its shadow on 9 p.m. behind a red dove with a white poppy in its mouth that flies toward a dying woman. A painter from this movement contrasted “Soul’s Beauty” and “Body’s Beauty” in the paintings *Sibylla Palmifera* and *Lady Lilith*. A woman in a red dress weaves a tapestry in front of a circular window in a work partially titled for the line “I Am (*) Half-Sick of Shadows,” which is one of the paintings of the Lady of Shalott made by John William Waterhouse. A frequent model for this movement, Elizabeth Siddal, caught a cold while laying in a bathtub to model for *Ophelia*. For 10 points, name this movement that included John Everett Millais and Dante Gabriel Rossetti, which emulated a style from before a certain Renaissance painter.

ANSWER: **Pre-Raphaelite** Brotherhood [or **Pre-Raphaelites**; **PRB**] (The painting described in the second line is *Beata Beatrix*.)

<VS, Painting & Sculpture>

19. A deuterated form of this molecule has been used to create an isopycnic mixture of this molecule and methanol. KA oil is a mixture of this compound and a ketone derivative of this molecule, which is used in the production of adipic acid and caprolactam. A-values are used to determine the most stable conformational isomers of substituted forms of this compound. Hermann Sachse (“SACK-suh”) proposed this molecule’s most stable isomer, which it adopts to relieve (*) torsional strain. The orientation of substituents to this molecule take axial or equatorial positions. Steric interactions between flagpole hydrogens make this molecule’s boat conformation less stable than its two chair conformations, which it converts between in ring flips. For 10 points, name this six-carbon cycloalkane whose formula is C₆H₁₂.

ANSWER: **cyclohexane** [accept **C6H12** until read]

<GR, Chemistry>

20. In one work, this thinker used the “epistemic principle of border crossing” to argue against imposing risk on others without their consent. He wrote that work based on his arguments with Michael Walzer in a Harvard course that they co-taught, *Capitalism and Socialism*. He famously mocked the Lockean proviso, comparing it to mixing a can of tomato juice with the sea. To refute ethical hedonism, he argued that no one would choose to artificially (*) experience pleasurable activities without doing them. This thinker argued that utilitarianism would force agents to make sacrifices to a utility monster. He [emphasize] *rejected* the difference principle, arguing for a Lockean “night watchman state” in a response to John Rawls’s *A Theory of Justice*. For 10 points, name this libertarian who wrote *Anarchy, State, and Utopia*.

ANSWER: Robert **Nozick**

<GR, Philosophy>

Bonuses

1. Both the far right panel of Bosch's *The Last Judgment* triptych and his *Garden of Earthly Delights* show this location. For 10 points each:

[10] Name this location depicted by many Northern Renaissance artists, who seemed to relish painting the souls of the damned being tortured by demons in this place.

ANSWER: **Hell**

[10] Sinners fall headfirst into Hell as they are defecated out by a giant skeleton with bat wings in this artist's *Crucifixion and Last Judgement* diptych, which was attributed to him thanks to its similarities with the "Hand G" illustrations in the *Turin-Milan Hours*.

ANSWER: Jan **van Eyck**

[10] In this painting, Bruegel the Elder showed the title woman leading an army of women into a literal "mouth of Hell" on their way to pillage the underworld.

ANSWER: **Mad Meg** [or **Dull Gret**; or **Dulle Griet**]

<JH, Painting & Sculpture>

2. The current flowing through the base of one type of these devices controls the current between the collector and the emitter. For 10 points each:

[10] Name these three-terminal circuit elements used in solid-state electronic devices like amplifiers.

ANSWER: **transistors** [accept bipolar junction **transistors** or **BJTs**]

[10] Current through the channel of this type of transistor is only due to one type of charge carrier. These devices have insulated gates, making them voltage-controlled, rather than current-controlled, unlike BJTs.

ANSWER: **FETs** [or **field-effect** transistors; or **MOSFETs** or metal oxide **field-effect** transistors; prompt on **MOS**]

[10] In contrast to bipolar transistors, MOSFETs ("MOSS-fets") have very high DC gate impedance. The gate acts as one of these components, whose charge controls current flow in the channel.

ANSWER: **capacitor** [accept gate **capacitance**]

<GR, Physics>

3. In a short story, the Parisian writer Garcín opens the cage of a bird described by this adjective before shooting himself to avoid working in his family's shop. For 10 points each:

[10] Give either the original Spanish or English translation of this adjective. A Spanish-language collection titled for this adjective contains works like "The Bourgeois King" and "The Lyric Year" and opens with an epigraph by Victor Hugo describing art with this adjective.

ANSWER: **blue** [or **azul**; or **azur**; accept "**The Blue Bird**" or "**El pájaro azul**"]

[10] This Nicaraguan author's collection *Azul...* kickstarted the *modernismo* movement of Hispanic literature in the late 19th century.

ANSWER: Rubén **Darío**

[10] In a story from *Azul...*, four men are gifted a blue veil of dreams by Mab, the queen of these mythical beings. Edmund Spenser's epic poem about Gloriana is titled for the queen of these beings.

ANSWER: **fairies** [or **fairy**; accept *The Faerie Queene*]

<AP, World/Other Literature>

4. William C. Lee was the first commander of this military force, which was sent to Arkansas by President Eisenhower to enforce the integration of Little Rock Central High School. For 10 points each:

[10] Name this US army paratrooper division. While defending Bastogne ("bas-TONE"), the commander of this division, Anthony McAuliffe, replied "Nuts!" when asked to surrender by the Germans.

ANSWER: **101st Airborne** [or **Screaming Eagles**]

[10] The defence of Bastogne by the 101st Airborne occurred during this battle from 1944 to 1945, the last major German offensive in World War II. This battle takes its name from the shape of Allied lines caused by the offensive.

ANSWER: Battle of the **Bulge** [or Battle of the **Ardennes**]

[10] The story of the 101st Airborne during World War II was chronicled in *Band of Brothers*, a book by this historian. This historian wrote Eisenhower's official biography and a three-volume biography on Nixon.

ANSWER: Stephen E. **Ambrose** [or Stephen Edward **Ambrose**]

<AE, American History>

5. Ten days after the UN cited this country's security forces for arbitrarily killing hundreds, its defense minister promoted nearly 17,000 soldiers for "loyalty" and "respecting human rights." For 10 points each:

[10] Name this South American country that is facing a constitutional crisis in early 2019. The National Assembly declared Juan Guaidó ("gway-DOH") the acting president on January 23, two weeks after the inauguration of Nicolás Maduro.

ANSWER: **Venezuela** [or the Bolivarian Republic of **Venezuela**]

[10] In February 2018, Venezuela launched the petro, which is one of these assets based on its oil reserves. In December 2018, Lael Brainard criticized the idea of creating CBDCs as an alternative to these assets.

ANSWER: **crypto**currency [or **crypto**urrencies; prompt on **currency** or **money**]

[10] Thousands of Venezuelans have lost weight due to malnutrition in the "Maduro diet," despite Mercal, a social program given this name. Many social programs with this name were established by Hugo Chávez.

ANSWER: **Bolivarian Missions** [or **Misiones Bolivarianas**; prompt on **Missions** or **Misiones**; prompt on **Bolivarian** or **Bolivarianas**]

<JH, Other>

6. This quantity increases across periods, with noble gases having the highest values. For 10 points each:

[10] Name this quantity defined as the amount of energy needed to remove a single electron from an atom or molecule.

ANSWER: first **ionization energy**

[10] When ionization changes the spectrum of these degrees of freedom, it is called vertical ionization. In contrast, adiabatic ionization energy is defined for molecules with the minimum energy in these degrees of freedom, which can be modeled with the QHO or Morse potential.

ANSWER: **vibrational** degrees of freedom [or **vibrational** modes; accept **vibrational** energy]

[10] Ralph Pearson and Robert Parr defined this other quantity as the ionization energy minus the electronegativity, all over 2. Molecules with high values of this quantity are not easily polarized.

ANSWER: chemical **hardness**

<AE, Chemistry>

7. In a poem titled for one of these animals, the speaker notes "Something else is alive" in the "midnight moment's forest" that they are imagining. For 10 points each:

[10] Name this sort of animal, one of which enters "the dark hole of the head" in a Ted Hughes poem that analogizes thought to one of these animals. In Chaucer's *Nun's Priest's Tale*, which is based on the *Reynard* cycle, Chanticleer is almost abducted by one of these animals.

ANSWER: **foxes** [accept "The **Thought Fox**"]

[10] Another Ted Hughes poem mentions the "Continual wars and wives" that have battered one of these animals belonging to Esther. One of these animals proposes marriage to an owl in an Edward Lear poem.

ANSWER: **cats** [or **tomcat**; or **pussy-cat**; accept "Esther's **Tomcat**" or "The Owl and the **Pussy-Cat**"]

[10] The narrator of this novel clumsily repeats a joke about what Ted Hughes will do when he runs out of animals to write about. Tony reflects on the suicide of Adrian Finn in this Julian Barnes novel.

ANSWER: *The **Sense of an Ending***

<VS, British Literature>

8. After some activists for this cause were force-fed while engaging in hunger strikes, Parliament passed the “Cat and Mouse Act” to allow them to be temporarily released from prison. For 10 points each:

[10] Name this cause championed by members of the WSPU like Emily Davison, who died after being trampled by George V’s horse at the Epsom Derby. The Nineteenth Amendment achieved this cause in the United States.

ANSWER: **women’s suffrage** [or **female suffrage** or **woman suffrage** or **women’s voting** rights or anything indicating that **women** have the right to **vote**; prompt on **suffrage** or **voting** rights or other partial answers]

[10] This woman founded the WSPU and led many hunger strikes in support of women’s suffrage, but suspended her activism to support the British government during World War I.

ANSWER: Emmeline **Pankhurst** [or Emmeline **Goulden**]

[10] Pankhurst’s militancy was opposed by this other suffragette who founded the National Union of Women’s Suffrage Societies. She investigated the conditions of British concentration camps during the Boer War.

ANSWER: Millicent **Fawcett** [or Millicent Garrett **Fawcett**]

<AE, European History>

9. Increasing numbers of divided first violins quietly sustain this high pedal point in octaves for the first several minutes of Borodin’s tone poem *In the Steppes of Central Asia*. For 10 points each:

[10] Name this note. A long, high, piercing harmonic on this note by the first violin signifies Smetana’s deafness and interrupts the happy finale of his String Quartet No. 1 “From My Life,” which is in this note’s minor key.

ANSWER: **E** [or high **E**; or **E**-natural; accept **E** minor]

[10] Flourishes up to a long high E and 3+2 hemiolas feature in the “Allegretto lusinghiero” intro of this French composer’s *Havanaise* (“ah-vah-NEZ”). A young Pablo de Sarasate premiered his violin showpiece *Introduction et Rondo Capriccioso*.

ANSWER: Camille **Saint-Saëns** (“kuh-MEE san-SAWNS”)

[10] A final solo violin cadenza over harp, long high harmonic E’s, the falling whole tones E D C B-flat, four chords quoting Mendelssohn’s *Midsummer Night’s Dream*, and an A minor–E major cadence peacefully end this tone poem by Rimsky-Korsakov as the title storyteller “wins over” Shahryar.

ANSWER: **Scheherazade**

<OL, Classical Music>

10. Answer the following about unusual implements of murder in the Book of Judges, for 10 points each.

[10] After this judge was tied up by Philistines, he broke free from his restraints and picked up a donkey’s jawbone, using it to kill a thousand men. This judge lost his supernatural strength when his lover Delilah cut his hair.

ANSWER: **Samson** [or **Sampson** or **Shimshon**]

[10] After this judge and Barak defeated the Canaanite commander Sisera, Sisera died at the hands of Jael, who drove a tent peg into his skull. This judge’s “song” is considered one of the oldest passages in the Bible.

ANSWER: **Deborah** [or **Devorah**]

[10] Deborah’s story follows a single verse about this judge, who killed 600 Philistines with an ox-goad. The Song of Deborah states that in the time of this judge, “caravans ceased and travellers kept on the byways.”

ANSWER: **Shamgar**

<WC, Mythology>

11. Answer the following about alternative models of computing, for 10 points each.

[10] In a scheme pioneered by Nakagaki, scientists use food and light to pose problems like optimizing rail networks to these organisms. The specific organism used is an ameboid, but this term refers to a broad class of protists that form fungi-like aggregates.

ANSWER: **slime molds** [or **slime mold** computing; accept **Physarum polycephalum**; do not prompt on partial answers]

[10] More traditional gate-based computers can be built using fluidics. The fluidic version of this gate uses two streams that meet so that they deflect away from the output when both streams are ON. This gate outputs ON if only one of the inputs is ON.

ANSWER: **XOR** (“ex-or” or “zor”) [or **exclusive OR**]

[10] Bubble-based logic is a type of fluidics that has this property because the number of bubbles is conserved. Fredkin and Toffoli developed a billiard ball computing model with this property, and gates with this property must not map multiple inputs to the same output.

ANSWER: logical **reversibility** [or word form such as **reversible** logic; accept **invertibility** or word forms such as **invertible** logic gates]

<GR, Other Science: Computer Science>

12. This poem states that “Every moon is atrocious and every sun bitter” while describing the speaker as “swollen... with intoxication torpor.” For 10 points each:

[10] Name this poem that describes “unbelievable Florida’s mingling with flowers panther’s eyes and human skin.”

ANSWER: “The **Drunken Boat**” [or “Le **Bateau ivre**”]

[10] “The Drunken Boat” is by this French poet who quit poetry at age 21 to pursue a career in gun-running and, allegedly, slave trading in Africa.

ANSWER: Arthur **Rimbaud** (“ar-TOOR ram-BOH”)

[10] Rimbaud’s *A Season in Hell* declares that this virtue is the “key... to that ancient party where I might find my appetite once more.” Alfred de Musset (“mew-SAY”) called this virtue “gold without pity,” and the cliché that it “begins at home” is often misattributed to the playwright Terence.

ANSWER: **charity** [accept “**charity** begins at home”]

<JH, European Literature>

13. This view holds that space and time exist only as “forms of intuition.” For 10 points each:

[10] Name this view developed in a late 18th-century book which contends that human beings only experience sense impressions and not things in themselves.

ANSWER: **transcendental idealism** [prompt on partial answers]

[10] Transcendental idealism is defended in this book’s “Transcendental Aesthetic.” This book argues that the categories are applicable to experience in a deduction that proves the existence of *a priori* synthetic truths.

ANSWER: **Critique of Pure Reason** [or **Kritik der reinen Vernunft**]

[10] This German philosopher claimed to have begun a “Copernican revolution” in metaphysics with the publication of the *Critique of Pure Reason*, the first of his three “critiques.”

ANSWER: Immanuel **Kant**

<CK, Philosophy>

14. The god Enki was the patron deity of this Sumerian city, which was built near an underground water source called the Apsu. For 10 points each:

[10] Name this Mesopotamian city whose rulers are the first kings mentioned on the Sumerian King List, which is often taken as evidence for this city being the oldest in Sumerian civilization.

ANSWER: **Eridu** [accept **Tell Abu Shahrain**]

[10] Eridu lay a few miles south of this other Sumerian city, which was home to a Great Ziggurat excavated by Sir Leonard Woolley.

ANSWER: **Ur** [or **Urim**; accept **Tell al-Muqayyar**; do not accept “Uruk”]

[10] Ur and Eridu were settled centuries before this other Mesopotamian city that was ruled by kings like Nebuchadnezzar II and Hammurabi.

ANSWER: **Babylon** [or **Babil**]

<AE, European History>

15. These sequences are classified by whether they include long terminal repeats or 3-prime and 5-prime untranslated regions. For 10 points each:

[10] Name this subclass of transposable elements that must be transcribed into RNA before moving in the genome.

ANSWER: **retrotransposons** [or **class 1 transposable elements**; prompt on transposons]

[10] This scientist studied color patterns in maize to discover the first transposon, Ac/Ds, on chromosome 9. She won the 1983 Nobel for Physiology or Medicine for the discovery.

ANSWER: Barbara **McClintock**

[10] DNA-based class II (“two”) transposons include the mariner family discovered in this genus. Morgan used these model organisms to demonstrate that genes, such as one coding for white eye color, are inherited on specific chromosomes.

ANSWER: **Drosophila** [accept **Drosophila mauritiana**; accept **Drosophila melanogaster**; prompt on fruit flies]

<GR, Biology>

16. In his best known song, this character boasts that he can “whistle all the airs from that infernal nonsense Pinafore.” For 10 points each:

[10] Name this character from *The Pirates of Penzance* who sings “I’ve information vegetable, animal, and mineral” in a patter song in which he states that he is the very model of modern holder of his namesake rank.

ANSWER: **Major-General Stanley** [or Major-General **Stanley**]

[10] After early successes including *The Pirates of Penzance*, this librettist-composer duo wrote the operas *Patience* and *Iolanthe* (“eye-oh-LAN-thee”) for the Savoy Theatre. Name both.

ANSWER: W. S. **Gilbert** AND Arthur **Sullivan**

[10] This comic baritone sings about a time when “your brain is on fire” and “the bed-clothes conspire” in his “Nightmare Song,” after he falls in unrequited love with his ward Phyllis in *Iolanthe*.

ANSWER: **Lord Chancellor**

<CK, Other Arts>

17. This thinker called Black women “outsiders-within” because they are excluded from both feminist and Black thought. For 10 points each:

[10] Name this University of Maryland sociologist who examined the intellectual history of African-American women in her 1990 book *Black Feminist Thought*.

ANSWER: Patricia Hill **Collins**

[10] Patricia Hill Collins argued that this concept works within a “matrix of domination.” Kimberlé Crenshaw coined this concept, which argues that the most marginalized are oppressed by interlocking systems of power.

ANSWER: **intersectionality** [or word forms]

[10] This earlier sociologist described how African-Americans suffered from “double consciousness” in *The Souls of Black Folk*. This man also served as first president of the NAACP and edited its magazine *The Crisis*.

ANSWER: W. E. B. **Du Bois** [or William Edward Burghardt **Du Bois**]

<CK, Social Science>

18. One pill used to cure this disorder also causes its user to believe that words said around them are actual objects, like “falling airplane.” For 10 points each:

[10] Name this disorder. To receive an experimental drug for it, Babette repeatedly has an affair with the pseudonymous Mr. Gray.

ANSWER: **fear of death** [or **thanatophobia**; accept equivalents like **fear of dying** or being **scared of death**; prompt on fear or similar answers]

[10] Babette takes the experimental drug Dylar to treat her fear of death in this novel, in which her husband Jack pioneers the academic field of Hitler Studies.

ANSWER: **White Noise**

[10] *White Noise* is a novel by this postmodern American author, who described the life of Lee Harvey Oswald in his novel *Libra* and wrote *Underworld* and *Mao II*.

ANSWER: Don **DeLillo**

<VS, American Literature>

19. In Iran and the Indian subcontinent, practitioners of this form of Islam worship in buildings called *khanqahs*, and saints from this form of Islam are venerated at shrines called *dargahs*. For 10 points each:

[10] Name this mystical form of Islam, whose followers emphasize the direct personal experience of God. People may follow this form of Islam as a part of an order called a *tariqa* claiming spiritual descent from Muhammad.

ANSWER: **Sufism** [or **Tasawwuf**]

[10] Members of this Sufi order based in Turkey are known as the “Whirling Dervishes” because of their performance of a dance called the *sema* that accompanies the recitation of *dhikr* (“thicker”) prayers.

ANSWER: **Mevlevi** Order [or **Mevleviyah** or **Mawlawiyah**]

[10] *Dhikr* can also involve the recitation of these phrases, of which there are 99 in the Quran. The Basmala invokes two of these phrases, “ar-Rahman” and “ar-Rahim.”

ANSWER: **names of God** [or beautiful **names of Allah**; or **attributes of God** or **attributes of Allah**; prompt on partial answers or *asmā’u llāhi l-ḥusnā*]

<WC, Religion>

20. After rejecting Leonid Brezhnev’s advice about keeping NATO out of his country, this leader walked out of the meeting and allegedly had to be reminded to shake Brezhnev’s hand. For 10 points each:

[10] Name this leader who overthrew his cousin Zahir (“zuh-HEER”) Shah, the last king of Afghanistan, in 1973 while Zahir Shah was undergoing eye surgery in Italy. He was overthrown in the Saur (“sor”) Revolution in 1978.

ANSWER: Mohammed **Daoud** (“dah-OOD”) Khan [or Prince **Daoud**; prompt on **Khan**]

[10] As Afghanistan’s prime minister, Daoud Khan had supported uniting Pashtun peoples across the Durand Line, Afghanistan’s border with this country. This country was established in 1947 by the partition of British India.

ANSWER: **Pakistan**

[10] Soon after Daoud’s coup, Pakistan’s prime minister Zulfikar Ali Bhutto began training Afghani Islamists like Gulbuddin Hekmatyar (“gool-boo-DEEN HECK-mutt-yar”), forming the basis of these guerilla groups that fought against the 1979 Soviet invasion.

ANSWER: **mujahideen** [or **mujahid**]

<AP, World History>