

## 2023 IQBT Undergraduate Championship

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### Round 10 – Tossups

1. In 1996, these two countries negotiated a 50-50 split of the waters controlled by the Farakka Barrage. In 2015, these two countries exchanged a territory that primarily consisted of large jute (“joot”) fields, eliminating the world’s only third-order enclave; similarly, the 1974 Land Boundary Treaty eliminated many of the “pasha enclaves” along their borders. These two countries are partially protected from cyclones such as Aita and Mora by a wetland which has its western boundary on the (\*) Hooghly (“HOOG-lee”) River; that largest mangrove forest in the world is the Sundarbans (“sun-DAR-buns”). One of these countries must negotiate sea route alternatives to the Siliguri (“SHIL-lee-goo-ree”) Corridor for transport to northeastern regions such as Tripura (“TRIP-uh-ruh”), since the other denies free access to its port of Chittagong (“CHIT-uh-gong”). For 10 points, what two countries share the Ganges (“GAN-jeez”) river delta?

ANSWER: India AND Bangladesh [accept Bhārat Gaṇarājya for India]

2. For  $n$  greater than 1000, this distribution is well-approximated by the statistic  $G$  in the  $G$ -test. The Cochran–Armitage test uses this distribution to look for a trend. The log-likelihood ratio asymptotically approaches this distribution by Wilks’ theorem. The ratio of two variables drawn from this distribution defines the  $F$ -distribution. Frank Yates developed a correction for using this continuous distribution on discrete data. Karl (\*) Pearson noted that the squared difference between observed and expected counts, all over expected counts, summed over all cells in a contingency table, asymptotically approaches this distribution. For 10 points, name this distribution used to conduct independence, goodness-of-fit, and homogeneity tests on tables, named for a Greek letter.

ANSWER: chi (“kye”)-squared distribution [accept chi-squared test]

3. Travelers to this place would claim to have taken things from a big basket, put them in a small basket, then put them back into the big one. Funeral games at this place honored a prince who died when the old woman Doso tried to make him immortal by coating him with ambrosia and burning him. Demophon was a prince of this place, where the earth swallowed king Erechtheus (“uh-RECK-thee-uss”) after Erechtheus defeated a Thracian bard who ruled this place named Eumolpus. People told bawdy jokes like those of Baubo and consumed (\*) the entheogenic (“en-THEE-oh-gen-ick”) barley drink *kykeōn* (“KIK-ee-on”), during events named for this site in Attica. After providing a password, pilgrims to this site offered corn to celebrate the harvest. The trio of Triptolemus, Persephone, and Demeter were celebrated in rites called, for 10 points, what site’s mysteries?

ANSWER: Eleusis (“uh-LEW-siss”) [or Elefsina or Eleusinia; accept Demophon of Eleusis, or Temple of Demeter at Eleusis, or Eleusinian Mysteries; prompt on temple of Demeter; prompt on Attica before “Attica”]

4. A taunt about this man's "nasal organ" having "a purple hue" referred to his deformed nose, which was caused by rosacea ("roh-ZAY-shuh"). Historian Ron Chernow's first book was primarily about the life of this man and his son of the same name. While testifying before the Pujo Committee, he claimed that he liked "a little competition." The founder of Drexel University, Anthony Drexel, died while serving as this man's senior partner. He owned the I·M·M, a company that almost went bankrupt after the (\*) Titanic sank. This man dispatched Elbert Gary to persuade Theodore Roosevelt to approve a corporate takeover amid the Panic of 1907. In 1901, he founded the world's first billion-dollar company. For 10 points, name this banker who, after financing a merger involving Andrew Carnegie's company, founded U.S. Steel.

ANSWER: J. P. Morgan [or John Pierpont Morgan Sr.]

5. The protagonist of a story by this author decides to travel eastward after shooting an arrow through the eye of a panther that had just attacked a white fawn. In that story by this author, the protagonist encounters a column that presumably once said "George Washington" but now says "ASHING." A priest's son journeys to what he believes is the "Place of the Gods" in that story by this author, which takes its title from (\*) Psalm 137. In a story by this author, Metacom and Blackbeard are among the jurors who void a contract by which a man sold his soul to Mr. Scratch. This author of "By the Waters of Babylon" wrote a story in which an American orator represents the New Hampshire farmer Jabez Stone. For 10 points, name this author of "The Devil and Daniel Webster."

ANSWER: Stephen Vincent Benét

6. A phallic sculpture depicting one of these creatures on a steel disc was given a title that reverses a familiar myth from Ovid. The Maharaja of Indore ("in-DOR") purchased three sculptures depicting these creatures for a planned "Temple of Love and Peace." A series of sculptures of these creatures were given unusual bases, one incorporating its artist's *Double Caryatid* ("carry-AT-idd") and another consisting of a marble cube atop an hourglass form. A word meaning "master" titles a series of sculptures depicting a (\*) mythical creature of this type, the *Măiastra* ("muh-YAH-struh"). Edward Steichen ("STY-ken") purchased another sculpture of this type of creature, which consists of a reflective, bronze form rising in a curved arc. For 10 points, U.S. Customs famously taxed an abstract Constantin Brâncuși ("brun-KOOSH") sculpture depicting what animal "in space?"

ANSWER: birds [accept swans; accept maiastra until mentioned; accept Bird in Space]

7. This regime referenced the 1917 Miracle of the Sun as one of its Three Fs, another of which was football. This regime's constitution incorporated phrases from the papal encyclicals *Rerum Novarum* and *Quadra-gesimo Anno*, though it refused to recognize Catholic Action in a concordat signed with the Vatican. This regime used the slogan "proudly alone" to describe its pro-imperial policies, which were promoted by the ideology of (\*) pluri-continentalism. This regime promoted the work of Amalia Rodrigues, a *fado* singer. Zeca Afonso's "Grandola, Vila Morena" was played on the radio to signal the coup that ended this regime. That revolution saw Antonio de Spínola topple this regime's government of Marcelo Caetano. For 10 points, the Carnation Revolution overthrew what 20th-century Portuguese regime headed by Antonio Salazar?

ANSWER: Estado Novo

8. **Principal component analysis or scaled subtraction can be combined with this technique to detect counterfeit drugs within their packaging, in this technique’s spatially offset form. If the binary products of  $x$ ,  $y$ , and  $z$  are present for an irreducible representation in a point group character table, then this technique can analyze that molecule. The signal detected in this technique can be enhanced by up to eleven orders of magnitude due to (\*) surface plasmon resonance. The main selection rule for this technique is that molecular polarizability must change. A slight change to a higher frequency in this technique is called an anti-Stokes shift. For 10 points, name this spectroscopic technique that uses inelastic scattering to analyze vibrational modes, named after an Indian physicist.**

ANSWER: **Raman** (“RAH-mun”) spectroscopy

9. **After a birthday party, one of this author’s protagonists jealously notes that her lover and lover’s ex eat fried chicken battered, not unbattered. An essay by this author calls masculinity “a hard, small cage” into which boys are put, and says gender “prescribes how we should be rather than recognizing how we are.” In a novel by this author, a legal immigrant takes a cut of an illegal immigrant’s salary for using the former’s NHS card to avoid deportation from the U.K. This author’s friend (\*) Okoloma was the first to call her the title kind of person according to a TED talk by her. In a novel by her, a blog called “Raceteenth” is written by Ifemelu, (“EEF-eh-mel-oo”) who studies at Princeton before returning to Lagos. For 10 points, name this Nigerian author of “We Should All Be Feminists” and *Americanah*.**

ANSWER: Chimamanda Ngozi **Adichie**

10. **A thinker called this concept the embrace of the absurd “in the passion of the infinite” in a work that insists that humor comes directly before this concept, not after. The paradox of this concept is that “the individual [...] determines his relation to the universal by his relation to the absolute,” according to the second of one text’s three problems. This concept’s “answer” is “absolutely either yes or no,” according to the *Concluding Unscientific Postscript*. (\*) Johannes de Silentio describes a man whose embrace of this concept prevents him from giving up on the love of a princess. In *Fear and Trembling*, that man named for this concept goes past reason and “infinite resignation.” Kierkegaard (“KEER-kuh-gard”) wrote about a “knight of,” for 10 points, what concept that he described as requiring a “leap”?**

ANSWER: **faith** [or **tro**; accept leap of **faith**]

11. **A World War II hit in this dance genre was Bob Eberly, Helen O’Connell, and Jimmy Dorsey’s 1941 recording of “Amapola.” Although the movie is set in Brazil, the centerpiece of *Flying Down to Rio*, “La Carioca,” is one of these dances. In American-style ballroom dancing, this dance and the foxtrot are the two 4/4 dances that use a box step. This dance and *son* name the two most common (\*) *clave* patterns. This slowest of the five competitive international Latin ballroom dances has three traditional forms: *columbia*, *yambú*, and *guaguancó*, and emerged in 19<sup>th</sup>-century Black communities near Matanzas. For 10 points, Xavier Cugat was called the “king” of what Cuban dance, featuring rolling hip movements, whose American offshoot adds an “h” as the second letter?**

ANSWER: **rumba**

12. **This thing is a cyclic vector under some field algebra in Minkowski space, per the Reeh–Schlieder (“RAY-SHLEE-der”) theorem. Also in Minkowski space, for a free field theory, the Hadamard state corresponds to the state describing this thing, which is Poincaré (“pwan-kah-RAY”) invariant. The condensate of an operator is equivalent to its expectation value named for this thing. Feynman (“fyne-man”) diagrams without external edges are named for this thing. Q·E·D predicts that electron–positron pair production leads to the (\*) polarization of this thing. The impedance of this thing is about 120-times-pi ohms. The quantity “one over the square root of the product of this entity’s permittivity and permeability,” is equal to the speed of light in this thing. The index of refraction in this thing is equal to exactly 1. For 10 points, name these regions of space without matter.**  
ANSWER: vacuum [accept vacuum state, vacuum expectation value, vacuum diagram, or vacuum polarization; prompt on “free space”]

13. **In this novel, three doctors give opinions on whether a man is insane by assessing whether he should look at his judge, his lawyer, or some women upon entering a courtroom. In this novel, a man claims that he has “no witnesses... except one, perhaps,” referring to a devil that he imagines hiding under an evidence table. A character in this novel carries borrowed cash in a cloth amulet around his neck, and clobbers a servant in the head with a brass (\*) pestle, while desperately searching for money to pay back his 3,000-ruble debt. In this novel, Katerina Ivanovna testifies against her fiancé, who plans to escape with Grushenka after being wrongly convicted for the murder of his father. For 10 points, Dmitri, Alyosha, and Ivan are the title characters of what novel by Fyodor Dostoyevsky?**  
ANSWER: *The Brothers Karamazov* [or *Brat'ya Karamazovy*]

14. **Red Pine’s commentary on this text claims an early version of it was made by the Yuezhi (“y’way-zhee”) layman Zhīqiān (“zhee-ch’yahn”) and explains superlatives used to describe a magic phrase, such as “equal to the unequalled.” This text explains dependent origination by stating there is no “causal link” nor “end of causal link, from ignorance to old age in death.” Five *skandhas* (“SKAHN-dahs”) or sources of “clinging” are explained by this non-Hindu text, which ends with the invocation “svāhā!” (“SVAH-hah”) after stating “gone, gone, gone to the (\*) other shore, awakening.” It is a discourse given on Vulture Peak to Śāriputra (“SHAH-ree-POOT-ruh”) by Avalokiteśvara (“uh-VAH-loh-kee-TESH-vuh-ruh”) which explains the doctrine of śūnyatā (“SHOON-yuh-tah”) as “form is emptiness, emptiness is form.” For 10 points, what short sutra’s title metaphorically refers to the center of perfect wisdom?**  
ANSWER: Heart Sutra [or *The Heart of the Perfection of Wisdom* or *Prajñāpāramitā Hrdaya*]

15. **The Fifth Monarchist sect believed this event would allow for the rule of the saints that would prepare for the Second Coming. A speech given at this event was written down only by the priest William Juxon, who had spent the previous day praying with the speech giver. This event spurred Alexis I (“the first”) to restrict Muscovy Company agents to trading in Arkh·angelsk (“ar-KONG-gilsk”). The people responsible for this event were not granted amnesty by the (\*) Indemnity and Oblivion Act. This event took place at the Banqueting House in Whitehall, after Pride’s Purge got rid of those who favored negotiation from Parliament. This event occurred after a war in which its victim allied with Scottish Covenanters against the New Model Army. For 10 points, name this 1649 event in which the Stuart Monarchy was temporarily ended by Oliver Cromwell.**  
ANSWER: the execution of Charles I [accept beheading or synonyms for execution; prompt on execution of Charles; prompt on the trial of Charles I until “Banqueting House”]

16. This entity's "welcome" is "thrice more wished, more rare" according to a poem that begins "Sweet love, renew thy force." Another poem asks how this entity's "honey breath" shall "hold out / Against the wrackful siege of batt'ring days." A poem by the same author urges distilling this entity as "A liquid prisoner pent in walls of glass," or else "Beauty's effect with beauty were bereft." A poem whose first line mentions this time period declares that Death will not brag that the addressee (\*) "wand'rest in his shade." This time period's "lease hath all too short a day" according to that sonnet, which tells the addressee that they are "more lovely and more temperate" than this time period. For 10 points, a Shakespeare sonnet asks "Shall I compare thee to" a day in what season?

ANSWER: summer [accept a summer's day; prompt on day]

17. This country's UNACE ("ooh-nuh-SAY") party was founded by Lino Oviedo, who fled the country in the aftermath of the assassination of Luis Maria Argana. This country is ruled by the son of the private secretary of one of its dictators, who was exiled after the Night of the Candelaria. The "barefoot ones" helped quell a rebellion in this country, whose Investigations Department carried out torture under Pastor Coronel. (\*) Andres Rodriguez overthrew a leader of this country whose human rights violations were uncovered in the Archives of Terror. That leader of this country, who worked with a larger neighbor to construct the Itaipu ("eeh-tye-POO") Dam, was a veteran of the Chaco War. For 10 points, name this country led by the Colorado party during the dictatorship of Alfredo Stroessner ("stroz-NAIR").

ANSWER: Republic of Paraguay

18. A piece in this genre features a left-hand ostinato in which an eighth-note triplet is divided into a sixteenth and an eighth, with the latter tied to a regular eighth tied to a quarter. Another piece in this genre opens with the right hand playing the descending parallel third dyads E–G-sharp, D–F-sharp, and C–E, and uses only the whole-tone scale except for six bars of pentatonic. "The Wind in the Plain" and "The Hills of Anacapri" appear in the first of two books of 12 pieces in this genre, including (\*) "Footsteps in the Snow" and "Voiles" ("vwal"). This genre partly titles a piece that begins with a chromatic descent from C-sharp to G in a solo flute, and which was inspired by a Stephane Mallarmé poem. For 10 points, Claude Debussy wrote what sort of piece "for the Afternoon of a Faun"?

ANSWER: prélude [accept Prelude to the Afternoon of a Faun; accept Prélude à l'après-midi d'un faune]

19. Systemic juvenile idiopathic arthritis and adult-onset Still's disease can both be complicated by these non-Mast-cells' namesake activation syndrome. These cells are polarized into two different types, depending on whether they are "classically" or "alternatively" activated. MARCO is a scavenger receptor expressed in some subsets of these cells. In sarcoidosis ("SAR-koyd-OH-siss") and T·B infection, these cells combine to form granulomas. Like osteo-clasts and dendritic cells, they differentiate from (\*) monocytes. Microglia ("my-KROG-lee-uh") in the brain and Kupffer cells in the liver are tissue-resident forms of these cells. Like both dendritic cells and B cells, these professional APCs present antigens on MHC Class II. For 10 points, name these immune cells that take up antigens by phago-cytosis, and whose name means "big eater."

ANSWER: macrophage [prompt on phagocyte or monocyte; reject "phage"]

20. The CoLA (“cola”) dataset, whose entries are all consistent with one of these systems, can be loaded into models such as BERT. Examples of these objects defined using the dependency relation, rather than constituency, include Aravind Joshi’s “tree-adjoining” one. The “constraint” variety of these systems consists of tags that address issues such as valence and lemmatization. A clause that (\*) conforms to one of these systems is well-formed. Backus–Naur (“BACK-us NOW-er”) notation describes these systems’ production rules. In a hierarchy ranging from Type-0 to Type-3, the Type-2 variety of these systems generates “context-free” output. Noam Chomsky proposed “generative” and “universal” theories of, for 10 points, what rules for the proper use of language?

ANSWER: grammars [accept constraint grammar or constituency grammar or dependency grammar or context-free grammar or generative grammar or universal grammar or rules of grammar; prompt on rules before “rules”; prompt on language or natural language or programming language before “language”] (CoLA is the Corpus of Linguistic Acceptability; BERT is an NLP model developed by Google.)

## Round 10 – Bonuses

1. “Commissives” and “behabitives” are among this book’s five categories of “illocutionary acts.” For 10 points each:

[10m] Name this book, based on a 1955 lecture series, that introduced the idea that some statements function as “performative utterances” rather than as statements of fact.

ANSWER: **How to Do Things with Words** (by J. L. Austin)

[10e] This American philosopher updated Austin’s classifications from *How to Do Things with Words* in his own book *Speech Acts*. He formulated the Chinese Room thought experiment to rebut the Strong AI hypothesis.

ANSWER: John (Rogers) **Searle**

[10h] This book’s chapter “How Words Do Things with Us” tries to explain how it’s possible to create linguistic meaning without a Central Meaner in the brain. This book rejects the existence of a Cartesian Theater in the mind, where all experiences merge.

ANSWER: **Consciousness Explained** (by Daniel Dennett)

2. A beaker misleadingly called a bowl of this material was found in Hasanlu after being preserved by burnt buildings. For 10 points each:

[10e] Name this precious metal. With silver, this metal formed the electrum used to make Lydian coins.

ANSWER: **gold**

[10h] At Hasanlu, furniture covers made of this material show Assyrian influence. Austin Henry Layard found the first of many plaques made of this material at Shalmanesser III’s palace in Nimrud.

ANSWER: **ivory**

[10m] With Hormuzd Rassam, Layard also excavated this building, which included tablets recording Babylonian proverbs. The Epic of Gilgamesh was found in this building in Nineveh.

ANSWER: Royal **Library of Ashurbanipal** [or **Ashurbanipal’s Library**; prompt on library]

3. Frances tracks down and kills a mole to present to her love interest Tom in this author’s story “Second Best.” For 10 points each:

[10h] Name this author who wrote about a miner’s wife who is sacrificed by Chilchui Indians at the end of the story “The Woman Who Rode Away.” An orderly chokes his sadistic army superior against a tree stump in a different story by this author.

ANSWER: D(avid) H(erbert) **Lawrence** (The third story mentioned is “The Prussian Officer”)

[10m] In this Lawrence story, Elizabeth awaits the return of her husband Walter, who she believes is out drinking but who has actually died in a cave-in at a coal mine.

ANSWER: “**Odour of Chrysanthemums**”

[10e] Lawrence wrote a story in which the boy Paul receives a “rocking” one of these animals, which allows him to see the future and help his family win thousands of pounds gambling on these animals before his untimely death.

ANSWER: **horses** [accept “The Rocking-**Horse** Winner”]

4. OpenFOAM is a C++ package used for solving equations in the computational version of this field, whose ideal version obeys the frozen-in approximation. For 10 points each:

[10m] Name this field developed by Hannes Alfvén (“al-VAYN”), which models charged fluids. It’s often applied to plasmas.

ANSWER: **magneto·hydro·dynamics** [or **MHD**; prompt on fluid dynamics or fluid mechanics]

[10e] A key assumption in computational MHD is that the divergence of the magnetic field  $B$  is equal to this value, which also implies that magnetic monopoles don’t exist.

ANSWER: **zero**

[10h] In this method of discretizing space in computational MHD, a mesh is applied and the PDE is integrated over each compartment to create a balance equation. It’s easier to run than the finite element method.

ANSWER: **finite volume method** [or **FVM**; reject “finite element method” or “FEM”; reject “finite difference method” or “FDM”]

5. Answer the following about epic depictions of the Arab conquests, for 10 points each.

[10e] The Arab conquest of the Sassanians (“suh-SAYN-ians”) is depicted near the end of this poem, most of which deals with the heroic age of the Kayanians (“kuh-YON-ians”). Ferdowsi wrote this national epic of Iran.

ANSWER: ***Shahnameh*** [or ***The Book of Kings***]

[10m] The Swahili *Utenzi wa Tambuka* lionizes this person as the Arab hero of a war with Heraclius (“huh-RACK-lee-uss”). This person wielded the sword Zulfiqar and was killed by a Kharijite with a poisoned knife.

ANSWER: **Ali** [or **‘Alī** ibn Abī Ṭālib]

[10h] An Armenian king of this name is the main hero who fights the Arabs invaders in the epic *Daredevils of Sassoun* (“suh-SOON”). A different king of this name is the subject of a Croatian epic by Marko Marulić (“mah-ROO-lich”).

ANSWER: **David** [accept **David** of Sassoun or Sasunitsi **Davit** or **Davidiad**]

6. The derivative of this quantity with respect to a generalized coordinate is equal to the overall time derivative of this quantity’s derivative with respect to the coordinate’s time derivative. For 10 points each:

[10m] Name this quantity whose integral with respect to time is equal to the action.

ANSWER: **Lagrangian** (“luh-GRANJ-ian”) [prompt on L]

[10e] The Lagrangian is equal to the difference between this quantity symbolized  $T$ , and a related quantity symbolized  $U$ . The translational form of this quantity is equal to “one-half times mass times velocity-squared”.

ANSWER: **kinetic energy** [or **KE**; prompt on energy; reject “potential energy” or “total energy”]

[10h] The generalized coordinates of Lagrangian mechanics define this kind of space. In robotics, this term refers to the set of all possible positions of the robot.

ANSWER: **configuration** space [or **C-space**, or **configuration** manifold]

7. This book’s author claimed he prepared to write it by spending two years transcribing conversations from memory without taking notes, until he reached 92% accuracy. For 10 points each:

[10m] Name this non-fiction novel about a multiple murder committed by Dick Hickock and Perry Edward Smith.

ANSWER: ***In Cold Blood***; *A True Account of a Multiple Murder and Its Consequences*

[10e] This childhood friend of Truman Capote (“kuh-POH-tee”) accompanied him on his trip to research *In Cold Blood*. She fictionalized Capote as Dill in her novel *To Kill a Mockingbird*.

ANSWER: Harper **Lee** [or Nelle Harper **Lee**]

[10h] This other American author, a contemporary of Capote’s, criticized *In Cold Blood* in his essay “Pornoviolence,” which argues that depictions of violence now serve the function once served by sexual pornography. That essay was included in his collection *Mauve Gloves & Madmen, Clutter & Vine*.

ANSWER: Tom **Wolfe** [or Thomas Kennerly **Wolfe** Jr.]



8. This policy was parodied by a *lubok* depicting a cat that “farts sweetly,” which is often attributed to Vasili Loren. For 10 points each:

[10m] Name this policy which required some people to carry tokens with part of a face on it. This policy was adopted after a ruler took a trip disguised as Pyotr Mikhailov (“mee-ha-eel-ov”).

ANSWER: **beard tax** [or Peter the Great’s **beard tax**]

[10e] Peter the Great was inspired to require people to shave by the court of this French “Sun King.”

ANSWER: **Louis XIV** [or **Louis Quatorze**; prompt on **Louis**]

[10h] A different *lubok* parodies the long titles of tsars with a caption above a cat being buried that says he is from Kazan with the mind of this city. Both Stenka Razin and Kondraty Bulavin led cossack revolts in this city.

ANSWER: **Astrakhan**

9. J. S. Bach’s Passacaglia (“pass-uh-KAL-yuh”) and Fugue in C minor has been transcribed frequently. For 10 points each:

[10e] The most famous orchestral transcription of the Passacaglia and Fugue is by Leopold Stokowski, who also conducted his transcription of Bach’s Toccata and Fugue in D minor onscreen in this 1940 Disney film.

ANSWER: **Fantasia**

[10m] After Stokowski’s, the most popular orchestral transcription of the Passacaglia and Fugue is by this Italian composer, who adapted Renaissance and Baroque lute music into his three suites of Ancient Airs and Dances.

ANSWER: Ottorino **Respighi**

[10h] This British consort of five viols performed an all-viol arrangement of the Passacaglia and Fugue on their 2005 album *Bach Alio modo*.

ANSWER: **Fretwork**

10. Answer the following about conducting cross-cultural research, for 10 points each.

[10e] Qualitative cross-cultural research in anthropology often involves this practice of embedding into a culture and making a detailed description of their cultural practices and daily habits.

ANSWER: **ethnography**

[10h] Cultures that have had high levels of cultural diffusion may exhibit autocorrelation, an effect first pointed out by Francis Galton in a criticism of this anthropologist’s paper on marriage institutions. In another work, this anthropologist called obsolete customs “survivals.”

ANSWER: Edward **Tylor** (The second sentence describes Tylor’s *Primitive Culture*.)

[10m] Cross-cultural research avoids the issue of using research data collected from people described by this five-letter acronym. It describes common traits of convenience samples at American universities.

ANSWER: **WEIRD** (WEIRD stands for Western, Educated, Industrial, Rich, and Democratic)

11. This collection includes “The Thunder, Perfect Mind,” in which a mysterious goddess reveals herself through cryptic statements that are similar to hymns of Isis. For 10 points each:

[10m] What so-called “library” of Gnostic and other early Christian writings is named for the town in Upper Egypt where it was found?

ANSWER: **Nag Hammadi** Library

[10e] The Nag Hammadi Library includes the first-discovered copy of a “sayings gospel” named for this apostle, who spread Christianity to India after initially doubting Jesus’s resurrection.

ANSWER: **Thomas** the Apostle [or Doubting **Thomas**; or **Didymus**]

[10h] This word of Greek origin titles a Nag Hammadi commentary on Genesis which explains how evil archons (“AR-kons”) shaped our reality. The Council of Chalcedon (“KAL-suh-don”) affirmed belief in a “union” described by this word, in which God and Christ have two natures but one existence.

ANSWER: **hypostasis** [accept **Hypostasis** of the Archons or **hypostatic** union; or **hupóstasis**]

12. Critics have praised this artist for subverting tradition with her painting *The Blue Room*, which depicts a full-bodied woman lounging in striped pajamas. For 10 points each:

[10h] Name this French artist, the mother of Maurice Utrillo (“yew-tree-YOH”). This woman modeled for French painters like Henri de Toulouse-Lautrec (“too-LOOZ-loh-TREK”), who gave her a name referencing the scene of Susanna and the Elders.

ANSWER: Suzanne **Valadon** (“vah-lah-DAWN”) [or Marie-Clementine **Valadon**]

[10e] Suzanne Valadon is depicted in this artist’s painting *Dance at Bougival* (“boo-zhee-VAL”). This lover of Valadon also painted *The Luncheon of the Boating Party*.

ANSWER: Pierre-Auguste **Renoir** (“ruh-NWAR”)

[10m] Another painting by Valadon shares its English title with this Matisse (“muh-TEESS”) painting, in which the subjects of his earlier painting, *The Dance*, appear in a brightly-colored pastoral landscape.

ANSWER: *The **Joy of Life*** [or *Le **Bonheur de Vivre***]

13. These structures form symbiotic relationships with fungi to form mycorrhizae (“MY-koh-RYE-zay”), and nodules in these structures contain rhizobia bacteria that conduct nitrogen fixation. For 10 points each:

[10e] Name these structures that penetrate the soil and gather nutrients for plants.

ANSWER: **roots**

[10m] Lateral root formation is promoted by these plant hormones. By activating H<sup>+</sup> A·T·P·ases, these hormones activate expansins.

ANSWER: **auxins** (“OX-ins”)

[10h] In roots, a layer of suberin (“SOO-buh-rin”) called the casparian strip prevents nutrients from moving through this transport pathway. This kind of transport happens outside of the cell membrane within the cell wall.

ANSWER: **apoplast** (“APP-uh-plast”) [or **apoplastic** transport]

14. Workers in this profession were represented by the first union to be decertified by the Federal Labor Relations Authority. For 10 points each:

[10m] Give this profession. Robert E. Poli led a union of these workers who were fired en masse after a 48-hour warning.

ANSWER: **air traffic controllers**

[10h] In a 2003 speech, this person credited the PATCO strike with increasing the “flexibility” of the “freedom to fire.” A speech at Jackson Hole contributed to a feud between this man and his subordinate Alan Blinder.

ANSWER: Alan **Greenspan**

[10e] This president fired the striking air traffic controllers. He defeated Jimmy Carter in the 1980 election.

ANSWER: Ronald **Reagan**

15. Answer the following about Khalil Gibran (“jih-BRAHN”), for 10 points each.

[10e] Khalil Gibran’s most popular book is titled for one of these people named Al Mustafa. The life stories of several of these people, including Moses and Muhammad, influenced the plot of Naguib Mahfouz’s (“nag-EEB mah-FOOZ’s”) novel *Children of Gebelawi*.

ANSWER: **prophets** [accept *The **Prophet***]

[10h] The line “I am forever walking upon these shores” opens this book by Gibran. This book’s characteristic aphorisms include “Forgetfulness is a form of freedom” and “Half of what I say is meaningless; but I say it so that the other half may reach you.”

ANSWER: ***Sand and Foam***

[10m] *Sand and Foam* states “Sadness is but a wall between two” of these places. Gibran’s sequel to *The Prophet* is titled for one of these places, as is the poet Saadi’s book *Gulistan*.

ANSWER: **gardens** [accept *The **Garden** of the Prophet* or *The Flower **Garden***]

16. In January and February 2023, a union called the “royal college” of this profession joined a series of strikes for higher pay. For 10 points each:

[10m] In January 2023, about 7,000 workers in what profession picketed outside such institutions as Montefiore (“MON-tuff-YOR”) while on strike for three days in New York City?

ANSWER: **nurses** [or **nursing**; accept **nursing assistants**; accept Royal College of **Nursing**; prompt on **health workers** or **health care workers**; reject “ambulance workers” or “EMTs”]

[10e] The U.K. nursing strikes have disrupted provision of healthcare by this socialized medical system.

ANSWER: **NHS** [or **National Health Services**]

[10h] The Royal College of Nursing proposed partly funding raises by cutting expenditure on these organizations, which are partially funded and controlled by the government, but have significant devolved power. They are common in the U.K. and Ireland, where they are known by a six-letter acronym.

ANSWER: **QUANGO**s (rhymes with “mangoes”) [or **quasi-autonomous non-governmental organizations**; reject “NGOs” or “non-governmental organizations”]

17. Answer the following about the intersection between hip hop and film scores, for 10 points each.

[10m] Wu Tang Clan leader RZA (“RIZZ-uh”) arranged the score for Jim Jarmusch’s (“JAR-mush”) film *Ghost Dog*, whose subtitle references this type of person. A Jean-Pierre Melville (“mel-VEEL”) film about stoical hitman Jeff Costello is titled for this kind of person.

ANSWER: **samurai** [or *Ghost Dog: Way of the Samurai*; or *Le Samourai*]

[10h] Madlib, J Dilla, and DJ Shadow have sampled the score for this 1973 French-Czech science fiction film. In this animated film, humans are treated as animals by giant blue aliens on Ygam (“eeh-GAHM”).

ANSWER: ***Fantastic Planet*** [or *La Planet Sauvage*; or *Divoka Planeta*]

[10e] Since we can’t finish off the bonus by asking about *8 Mile*, instead name this oft-sampled Sergio Leone (“lay-OH-nay”) Western, which ends with a three-way showdown between Clint Eastwood, Eli Wallach (“WAHL-luck”), and Lee van Cleef.

ANSWER: *The Good, the Bad, and the Ugly* [or *Il Buono, il Brutto, il Cattivo*]

18. The name of this field was coined by Carolyn Bertozzi in 2003, and her work in this field earned her a share of the 2022 Nobel Prize in Chemistry. For 10 points each:

[10m] Name this field of chemistry, named for reactions that can occur inside a living system without affecting local biochemical processes. Bertozzi extended click chemistry to this field by removing toxic copper catalysts.

ANSWER: **bio-orthogonal** chemistry

[10e] One bio-orthogonal reaction uses a non-toxic iso-variant of this functional group, which features a carbon atom triple-bonded to a nitrogen atom. Organic compounds with this group attached are known as nitriles.

ANSWER: **cyanide** [or **cyano** group or **CN**; accept **isocyanide**; reject “cyanate” or “isocyanate”]

[10h] Another popular bio-orthogonal ligation reacts a trans-cyclo-octene with this six-membered hetero-cycle containing four nitrogens in the ring. The ligation proceeds through an inverse-electron-demand Diels (“deels”)–Alder reaction.

ANSWER: **tetrazine** [prompt on **C<sub>2</sub>H<sub>2</sub>N<sub>4</sub>**]

19. Answer the following about the highly varied literary career of the Spanish Golden Age author, Félix Lope de Vega, for 10 points each.

[10e] Lope de Vega's comedy *The Dog in the Manger* is an adaptation of a story that was misattributed to this Ancient Greek author. This author is better known for the stories of “The Hare and the Tortoise” and “The Fox and the Grapes.”

ANSWER: Aesop [or Aísōpos]

[10h] Lope de Vega wrote over 400 plays in this Spanish genre of one-act morality plays, which were typically presented during the feast of Corpus Christi.

ANSWER: autos sacramentales

[10m] Lope de Vega's epic *La Hermosura de Angélica* is a sequel to an epic by this Italian author, which features a journey by Astolfo to the moon. That epic by this man was in turn a sequel to a romance by Matteo Maria Boiardo (“bo-YAR-doh”).

ANSWER: Ludovico Ariosto (Ariosto's epic is *Orlando Furioso*)

20. Ahmad ibn Fartuwa chronicled the military expeditions of this man, who contracted Ottoman emissaries for chain mail and iron helmets. For 10 points each:

[10h] Name this late 16th-century ruler who used a camel cavalry to end Tuareg (“TWAH-reg”) raids on trading caravans. He installed his nephew to rule the Bulala after defeating Dunama at the 1577 Battle of Kiyayeka.

ANSWER: Idris Alooma [or Mai Idris Alawma; prompt on Idris]

[10m] This empire around Lake Chad, ruled by the Sef dynasty, moved its capital in the 14th century following earlier attacks by the Bulala. It lasted nearly a thousand years under *mai* (“my”) such as Idris Aloom.

ANSWER: Kanem-Bornu [accept either underlined portion]

[10e] Kanem-Bornu territory disintegrated in the early 19th century following the expansion of the Fulani over Hausa territory, in a campaign usually known by this Islamic term for a war or struggle.

ANSWER: jihad [or Fulani Jihad]