

TOSSUPS

1. When this character discovers that his mother's diaries were burned, he angrily calls the character who destroyed them a murderer. After returning from his girlfriend Isabella's house, this character learns that his mother committed suicide, during the "Prisoner on the Hell Planet" episode. This character periodically visits (\*) Rego Park to listen to stories told to him by Mala's husband, Vladek. For 10 points, name this character who chronicled his father's experiences during the Holocaust in the autobiographical graphic novel *Maus*.  
ANSWER: Art Spiegelman [accept either underlined part]

2. Forms of this disease have either tertian or quartan periodicity in their symptoms. KAHRP ["*carp*"] is found on knobs in cells affected by this disease, which burst and release merozoites. Some treatments of this disease work by turning hemozoin into heme. Tu Youyou won a (\*) 2015 Nobel for using artemisinin to treat this disease, to which carriers of sickle-cell anemia are resistant. The *falciparum* species is the most deadly of the five *Plasmodium* protozoans that carry it. For 10 points, name this disease spread by *Anopheles* mosquitoes and sometimes treated with quinine.  
ANSWER: malaria [accept Roman fever from the editors of ACF Nationals 2015]

3. This thinker argued that matter was a metaphor since it symbolized the unknown and that knowledge had to be characterized as "essence", a term he used to refer to concepts and ideas. This thinker grouped matter and essence with truth and spirit, and believed that arational awareness was the foundation of knowledge, an idea this author of (\*) *The Realms of Being* expressed as "philosophy begins *in medias res*." For 10 points, name this author of *Skepticism and Animal Faith* who is best known for an aphorism about repeating the past.  
ANSWER: George Santayana [or Jorge Agustín Nicolás Ruiz de Santayana y Borrás]

4. In a bay next to this body of water, a well-known instance of seafood crowding the coastline called a "jubilee" occurs. *Karenia brevis* causes most red tide algae blooms in this body of water, which the ACF River Basin drains into. Vietnamese immigrants dominate the shrimp industry on this body of water, which (\*) Biloxi is a port on. The Rigolets connects Lake Pontchartrain to this body of water, which recovered from the Deepwater Horizon spill. Mobile Bay lies on the coast of - for 10 points - what body of water that receives the Mississippi?  
ANSWER: Gulf of Mexico [or Golfo de México]

5. Michael Scheuer suggests that the use of this word is incorrect to describe the phenomena which his book *Imperial Hubris* criticizes foreign policy responses to. This phenomenon arises from a rejection of modernity according to a book by Giovanna Barradori presenting dialogues between Jurgen Habermas and Jacques Derrida. The MEK was removed from a (\*) list of groups perpetrating this phenomenon that includes Ansar Dine. Otherization of Islam is often blamed for - for 10 points - what phenomenon that the Bush administration declared a "War on"?  
ANSWER: terrorism [or terror; accept any form of terrorism; prompt on ijihad or insurgency or security]

6. For one army's size at this battle, Livy notes only 10,000 more men than normal, but Polybius gives a force of eight legions plus allies. The word "pikemen" is usually used to describe troops assaulting the flanks of the Roman army in this battle, which used increased maniple depth and was the largest yet assembled. (\*) Fabius Cunctator's delaying strategy was made standard after this battle, at which Aemilius Paulus and Terentius Varro's forces were double-enveloped and slaughtered. For 10 points, name this last devastating victory for Hannibal in Italy.  
ANSWER: Battle of Cannae

7. This opera's first known public performance was in the Adorno Theater in Genoa, though it may have been performed much earlier in Salzburg as a "pastoral drama." This opera with libretto by Alessandro Striggio was written for performance at the Mantuan court, unlike the Jacopo Peri work it was probably modeled on. This opera, whose (\*) title character sings the song "rosa del ciel" ["*RO-sab del CHELL*"] and ascends to heaven with his father Apollo's aid, is the oldest in the standard repertoire. For 10 points, name this Claudio Monteverdi opera about a mythological musician.

ANSWER: L' Orfeo

8. One character in this play claims his name is “Joe Soap” before being repeatedly asked, “Do you recognise an external force?” During breakfast, this play’s central character complains about spoiled milk in his cornflakes, and inappropriately describes fried bread as “succulent.” After the (\*) lights go out during a game of blind man’s bluff, this play’s central character trips over a toy drum and attempts to rape Lulu. Goldberg and McCann kidnap Stanley Webber the day after the title celebration in - for 10 points - what Harold Pinter play?

ANSWER: *The* Birthday Party

9. Plentiful supplies of this resource at Rajgir helped propel the state of Magadha to power. A monument named for this resource stood for over 1000 years before being chipped by a cannonball. This was the *non-edible* one of the resources discussed in discourses held by Emperor Wudi. A famous (\*) pillar named for this resource was built by the Gupta Empire. Monopolies on salt and this resource ruined the Han dynasty’s economy. The Vedic Age is coterminous with an age named for this metal. For 10 points, what metal names an Age succeeding the Bronze?

ANSWER: iron [accept iron ore; accept Iron Pillar; accept Fe or ferrum]

10. The parameters describing this state can be computed as *[read slowly]*  $8a$  over  $27bR$  [“ $8-a$  over  $27b-r$ ”] and  $a$  over  $27b^2$  [“ $a$  over  $27b$ -squared”], where  $a$  and  $b$  are the van der Waals coefficients. It occurs at the intersection of the binodal and spinodal curves. The first and second derivatives of pressure with respect to volume are equal to zero here. Density fluctuations at this point lead to cloudiness known as (\*) “opalescence.” A method for caffeine extraction uses carbon dioxide held beyond it. For 10 points, name this point beyond which the liquid and gas phases are indistinguishable.

ANSWER: critical point [accept critical temperature or pressure]

11. Catholics in this country were explicitly banned from displaying tablets that said “seat of the soul.” Since 1957, this country has maintained a Patriotic Catholics Association that remains unrecognized by the Vatican. Decrees by Pope Clement XI issued at the behest of Franciscans and Dominicans ended a controversy named for (\*) rites in this country, where most bishops operate underground. Jesuits like Matteo Ricci led missions to - for 10 points - what country, where Catholics were once forbidden from venerating ancestors and Confucius?

ANSWER: (People’s Republic of) China [or Zhōnghuá Rénmín Gònghéguó; accept the Qing dynasty]

12. A secretive attempt to exterminate this country’s elites was called *Intelligenzaktion*. Marek Edelman was an activist in this country, whose underground government had a military called the Home Army. Saboteurs broadcast fake propaganda from a radio station in this country during Operation (\*) Gleiwitz. Jurgen Troop put down an uprising in this country whose victims were deported to Treblinka. The Molotov-Ribbentrop pact agreed to a division of - for 10 points - what country, where a Jewish ghetto uprising took place in Warsaw?

ANSWER: Poland [or Polska; accept any historical 20th century incarnation of Poland]

13. This country, which uses the so-called “May Orders” as socioeconomic development guidelines, has centered its new technology parks - like a huge “innovation center” near its capital - on older sites called “science cities.” This country, whose largest search engine is the home-grown Yandex, has engaged with a smaller neighbor in (\*) “gas disputes” over rights to natural gas pipelines leading west. This country’s economy, which is largely dominated by oligarchs, is the largest oil-based economy in the world. For 10 points, name this country led by Vladimir Putin.

ANSWER: Russia [or Russian Federation]

14. Since this artist’s patron revoked a condemnation of Savonarola, he put the friar at the right of a painting whose center shows four putti holding the books of the gospel. Fortitude, Prudence, and Temperance, represented by cupids, frolic with three women in this artist’s *Cardinal and Theological Virtues*, which (\*) flanks a painting showing a man carrying a copy of *Timaeus* who points his finger in the air. For 10 points, what artist painted *La disputa* and *The School of Athens* in the Stanza della Segnatura?

ANSWER: Raphael [or Raphaello Sanzio da Urbino]

15. To earn money, a character with this condition pawns his vest and writes a character sketch about Correggio. To appease a character with this condition, a supervisor notes, “we do admire it,” but amends his statement to, “we don’t admire it,” before that character dies and is replaced by a (\*) panther. The title character of that story spends forty-day periods embracing this condition, despite its waning popularity by circus-goers. For 10 points, name this condition that titles a Knut Hamsun novel and a Franz Kafka story about an “Artist” who “couldn’t find the food [he] liked.”

ANSWER: hunger [accept Hunger or “A Hunger Artist”; accept starving, fasting, or word forms thereof]

16. This man created a plan to send hungry children to New York City in order to garner the public’s sympathy. Harry Orchard was threatened with hanging if he didn’t testify against this man, who favored organizing across ethnicities and trades into one large organization. While on appeal from prison during the Red Scare, this leader of the (\*) Paterson silk and Lawrence Textile strikes fled to Russia. Clarence Darrow defended this man from charges of murdering Frank Steunenberg. For 10 points, name this IWW leader known as “Big Bill.”

ANSWER: William (Dudley) “Big Bill” Haywood

17. In this film, a blonde man receives an oil massage shortly before being punched in the stomach with a set of brass knuckles. This film’s protagonist offers fifty gold sovereigns for a final smoke, before tricking his captor into opening a tear gas-rigged suitcase. This film’s protagonist muses, “she had her kicks” after the death of a former (\*) SMERSH agent who wears a poison-tipped spiked boot. This film centers on the theft of a Lektor device from the USSR by Sean Connery’s character. For 10 points, name this second James Bond film.

ANSWER: From Russia with Love

18. The canonical value of this quantity is equal to its classical value plus the product of charge and vector potential. The conjugate form of this quantity is equal to the partial derivative of the Lagrangian with respect to  $\mathbf{q}$ . For a crystal, the “quasi” value of this quantity is equal to  $\hbar$  times the wavevector. Its operator is (\*) negative  $i$  times  $\hbar$  times the gradient. Kinetic energy is equal to this quantity squared divided by quantity two times mass. It is impossible to know both the position of a particle and - for 10 points - what quantity, the product of velocity and mass?

ANSWER: linear momentum [or p before mention]

19. The role of the “impersonal agency of Nature” in this process was highlighted in essays by Herbert Spencer that emphasize its physical and moral dimensions. The fundamentally narrative “banking model” of this subject is critiqued and its “critical” variety is advocated in a book by (\*) Paulo Freire in a book about it of *the Oppressed*. A scientific approach to this process developed in the Casa dei Bambini emphasizes the role of a “director” in guiding the subjects’ play. For 10 points, discovery by children is emphasized by Maria Montessori’s approach to what subject?

ANSWER: education [or pedagogy; or learning]

20. When Soorapadman assumed the guise of a mango tree, one of these objects was used to split the tree in two. Lleu Llaw Gyffes could only be slain with one of these objects if he had one foot on a goat’s back and the other in a cauldron. A poisoned one mortally wounded Bran the Blessed, while a (\*) barbed one was crafted from a sea monster’s bones. King Arthur owned one weapon of this type named Ron. Another one was made from Yggdrasil’s wood. For 10 points, identify this type of weapon exemplified by Cuchulainn’s Gae Bulg and Odin’s Gungnir.

ANSWER: spears

21. These things are inputs to an algorithm that uses a rolling hash to achieve an average runtime of big O of  $m$  plus  $n$ . Levenshtein distance is a form of edit distance, which refers to the dissimilarity of these objects. The Knuth-Morris-Pratt and (\*) Rabin-Karp algorithms search these things. The Kleene star returns a set of these closed under concatenation. Length is stored implicitly in the null-terminating type. Operations like grep are used for pattern matching in these using regular expressions. For 10 points, name this data type comprising a sequence of characters.

ANSWER: strings [prompt on “str”]

22. This composer used a system of graphic notation based on encephalogram readings as the basis of his piece *Polymorphia*. An E-minor triad and two major triads in the *a capella* Stabat Mater are the only tonal chords in a piece by this composer that contains many variations on the B-A-C-H motif. A piece by this composer that uses (\*) tone clusters made by 52 strings is sometimes called 8'37" ["eight minutes, thirty-seven seconds"]. For 10 points, identify this Polish composer of a *St. Luke Passion* and *Threnody for the Victims of Hiroshima*.

ANSWER: Krzysztof Eugeniusz Penderecki

23. One character in this story wants to sue the owners of a "salon-bar" for \$50,000, but admits he hasn't hired the lawyer yet. This story opens on a "burning February morning" as the narrator studies a photograph of his love wearing a mask during Carnival. The narrator is instructed to sprawl on the (\*) 19th step of a staircase by Carlos Argentino Daneri where, through the title "iridescent sphere of unbearable brilliance," he can see the rotting corpse of Beatriz Viterbo. For 10 points, name this Borges story titled for a point from which everything can be seen.

ANSWER: "The Aleph" [accept "El Aleph"]

24. The Medians were forced to agree to support the succession of this ruler via his father's Vassal Treaty. Reliefs of this ruler show him dining with the severed head of the Elamite king Teumann near the table. This ruler had to replace the king of Babylon after his brother Shamash-shum-ukin revolted. The (\*) *Epic of Gilgamesh* and 30,000 other tablets were uncovered at an edifice built by this ruler. Esarhaddon was the father of - for 10 points - what Assyrian king who created a massive library, known to the Greeks as Sardanapalus?

ANSWER: Ashurbanipal [accept Sardanapalus until it is read; accept Shamash-shum-ukin until "Teumann" is read]

1. The Durham Report proposed to reform government in this country. For 10 points each:

[10] Identify this modern-day country whose Upper and Lower portions were unified after the Hunters' Lodges and Patriots were suppressed during a series of 1837-38 conflicts.

ANSWER: Canada

[10] The Patriots suppressed during the 1837-38 rebellions, were from this Francophone Canadian province.

ANSWER: Quebec

[10] The *Caroline* affair between the United States and Canada was sparked by an attempt to supply this leader during the 1837 rebellions. This politician was also the first mayor of Toronto.

ANSWER: William Lyon Mackenzie

2. This equation can be derived by applying Newton's second law to the tension on an ideal string. For 10 points each:

[10] Name this partial differential equation, which states that the second partial derivative of psi with respect to position is equal to one over speed squared times the second partial of psi with respect to time.

ANSWER: wave equation

[10] Another method of deriving the wave equation imagines an array of weights connected by springs and applies this law, which states that force is equal to the spring constant times displacement.

ANSWER: Hooke's law

[10] The general solution to the one dimensional wave equation was discovered by this mathematician, who also formulated the principle of virtual work. His namesake operator is represented by a box.

ANSWER: Jean le Rond d'Alembert

3. Commentaries on this text placed opposite Rashi's notes are called *tosafot*. For 10 points each:

[10] Identify this text, which contains thousands of pages of writing about *halakhah*, philosophy, and ethics.

ANSWER: Talmud [accept Gemara or Mishnah, but don't accept "Mishneh Torah"]

[10] The edition of the Talmud named for this city was compiled around 500 CE. This city, a long-time center of Jewish learning, was also where the Jews were held in captivity by Nebuchadnezzar II.

ANSWER: Babylon [or Babilu]

[10] A city in this country names the edition of the Talmud that is most widely used in yeshiva schools today. This modern-day country was the historical center of the *misnagdim* who opposed the growth of Hasidism.

ANSWER: (Republic of) Lithuania [or Lietuva]

4. Name the following classical geographers, for 10 points each.

[10] This Greco-Egyptian polymath wrote a massive *Geographia* describing the entirety of the known world. Also well known as an astronomer, he shares his name with a bunch of Greek kings of Egypt.

ANSWER: Claudius Ptolemy

[10] In 7 BC, this other geographer published his own *Geographica* which unfortunately stops at India. Like later thinkers, this native of Amaseia thought the Black Sea used to be substantially larger.

ANSWER: Strabo

[10] This well-traveled Greek of the 2nd century wrote *Description of Greece*, which links classical myth with various locales. He shares his name with the general who defeated Mardonius at the Battle of Plataea.

ANSWER: Pausanias

5. A scene in this Ingmar Bergman film fixates on a woman's face as she is accused of being cold toward her child, then repeats the monologue with the perspective flipped. For 10 points each:

[10] Name this film where Liv Ullmann and Bibi Andersson play a mute actress and her nurse who fuse identities. Its opening cross-cuts between film equipment and scenes like a boy reading *A Hero of Our Time*.

ANSWER: Persona

[10] For *Persona*, cinematographer Sven Nykvist spliced Ullmann and Andersson's faces in a shot of this type. This is the name of an Abbas Kiarostami movie about a con man impersonating Mohsen Makhmalbaf.

ANSWER: close up

[10] This man's character Isaac declares Bergman "the only genius in cinema today" in his film *Manhattan*. He also directed *Annie Hall*.

ANSWER: Woody Allen [or Allen Stewart Konigsberg]

6. This character eats grapes in a storehouse with a piano teacher who was groped by a beautiful thirteen year-old girl. For 10 points each:

[10] Identify this college student. He frequently reminisces about a friend with whom he had played pool before that friend committed suicide.

ANSWER: Toru Watanabe [accept either]

[10] Toru falls in love with Naoko and Midori in this author's novel *Norwegian Wood*. This Japanese author also penned *1Q84* and *Kafka on the Shore*.

ANSWER: Haruki Murakami

[10] *Norwegian Wood* is often described as the Japanese version of this novel. Murakami translated this novel into Japanese, but noted that he thought this novel was incomplete.

ANSWER: Catcher in the Rye

7. This character dates his boss's daughter Zoey. For 10 points each:

[10] Name this Personal Aide to the President, played by Dulé Hill. An assassination attempt on this character wounds Josh Lyman instead.

ANSWER: Charles "Charlie" Young

[10] Charlie served as President Josiah Bartlet's Personal Aide on this overly witty Aaron Sorkin-created political drama that aired on NBC. It was named for the part of the White House that housed the Oval House.

ANSWER: *The* West Wing

[10] Aaron Sorkin also wrote the script for this 2011 sports drama film about the Oakland Athletics manager Billy Beane, portrayed by Brad Pitt. It was based on a 2003 book of the same name by Michael Lewis.

ANSWER: Moneyball

8. This object is inscribed with the words: "Republica Del Ecuador: Quito." For 10 points each:

[10] Identify this object that titles Chapter 99 of the work in which it appears. Flask vies for this object because he calculates that it is worth as much as nine hundred and sixty cigars.

ANSWER: the gold doubloon [prompt on less specific answers like coin]

[10] The gold doubloon is nailed to the mast of this ship by its captain, Ahab, who promises the coin to the first crewmember who spots the "White Whale."

ANSWER: Pequod

[10] Captain Ahab pursues the "White Whale" aboard the *Pequod* in this author's novel *Moby-Dick*.

ANSWER: Herman Melville

9. This musician's 2007 album, *Sound Grammar*, features the song "Sleep Talking", which makes use of the opening chords from *The Rite of Spring*. For 10 points each:

[10] Identify this recently deceased jazz musician whose best-known standard is the song "Lonely Woman."

ANSWER: Ornette Coleman

[10] Coleman was a pioneer of this style of jazz, so named because it rejected traditional style constraints like those of bebop, hard bop, and modal jazz.

ANSWER: free jazz

[10] Cecil Taylor, a player of this instrument, made use of its "prepared" variety in his free jazz work. Taylor was heavily influenced by earlier players of this instrument like Thelonious Monk.

ANSWER: piano [accept jazz piano or prepared piano]

10. This movement contrasted itself with the more militant Brown Berets movement. For 10 points each:

[10] Name this activist organization founded in the 1960s, which has been widely criticized for its motto "Por La Raza todo, fuera de La Raza nada", rampant anti-Semitism, and implying that its goal is a Reconquista.

ANSWER: MEChA [full name: Movimiento Estudiantil Chicano de Aztlán]

[10] MEChA helped reduce the negative connotations of the word "Chicano" used to describe immigrants from this country.

ANSWER: Mexico [or United Mexican States; or Estados Unidos Mexicanos]

[10] Both MEChA and this other advocacy organization, which was formed from the merger of a Mexican activist's organization with the Filipino dominated AWOC, used a black eagle as their symbol.

ANSWER: United Farm Workers

11. Answer the following about Apollo, the true god of seduction. For 10 points each:

[10] Apollo seduced Dryope by taking the form of this creature and then sitting on her lap. The bandit Sciron kicked travelers off of a cliff into the waiting mouth of an enormous one of these creatures.

ANSWER: sea **turtle**

[10] Apollo also pursued this beautiful naiad around the countryside. She was metamorphosed into a laurel tree just before the god of light could catch up to her.

ANSWER: **Daphne**

[10] Hermes joined Apollo in lusting after this daughter of Daedalion; however, Hermes's patience waned, so he used his powers of enchantment to put her to sleep. He then raped her.

ANSWER: **Chione**

12. Much of this gas is produced through acetic acid fermentation or hydrogen oxidation in wetlands and rice paddies. For 10 points each:

[10] Name this greenhouse gas, which is 25 times more potent per unit weight than carbon dioxide. It has formula CH<sub>4</sub>.

ANSWER: **methane**

[10] This common method of tracking atmospheric gas fluxes in turbulent environments uses networks of towers to compute mean air density and deviations in mixing ratio and vertical wind speed.

ANSWER: **eddy covariance** [or **eddy correlation**; prompt on **eddy flux**]

[10] Eddy covariance can measure water vapor entering the atmosphere through these two processes, sometimes denoted by a compound word. They represent all water loss to the atmosphere from aquatic and terrestrial environments, including plants.

ANSWER: **evaporation** and **transpiration** [or **evapotranspiration**; accept word forms; prompt on partial answer]

13. This concept is generally considered to be based on Aristotle's biological classifications. For 10 points each:

[10] Identify this medieval concept, which ordered all living and nonliving things, including angels, the stars, plants, animals, and humans of various social rank according to a strict religious hierarchy.

ANSWER: the great **chain of being** [or **scala naturae**]

[10] This medieval thinker interpreted the great chain of being to have at its summit that which is closest to God in nature and spirit. He outlined five proofs for God's existence in *Summa Theologica*.

ANSWER: Saint Thomas **Aquinas** [or Thomas of **Aquino**]

[10] This book's title is referenced by an E. F. Schumacher work that identifies four levels of being as a great truth of philosophy. This book rejects *kalam* philosophy and aims to reconcile Aristotelian thought with Judaism.

ANSWER: *The* **Guide for the Perplexed** [or **Moreh Nevuchim**; or **Dalālatul Hā'irīm**; accept *A* **Guide for the Perplexed** since that is the referencing book] (by Maimonides)

14. The motif of a falling minor second recurs in this composer's Piano Concerto in A Minor. For 10 points each:

[10] Identify this Norwegian composer of incidental music to *Peer Gynt*.

ANSWER: Edvard Hagerup **Grieg**

[10] Grieg originally created this composition for piano but adapted for string orchestra a year later. This five-movement piece was composed in celebration of the 200th birthday of a Norwegian playwright.

ANSWER: **Holberg Suite** [or **From Holberg's Time**; or **Fra Holbergs tid**; or **Aus Holbergs Zeit**; or **Op. 40** by Edvard **Grieg**]

[10] This innovative Norwegian violinist, famed for his ability to play several tones at once, convinced a 15-year old Grieg's family to send him to the Leipzig Conservatory.

ANSWER: Ole Bornemann **Bull**

15. When this character smiled, “the corners of his mouth spread till they were within an unimportant distance of his ears.” For 10 points each:

[10] Name this character. In one chapter, he uses a small tube to puncture the stomachs of a herd of sheep in order to relieve their clover-induced gas build-up.

ANSWER: **Gabriel Oak** [accept either name]

[10] In an unfortunate episode from this novel, Gabriel Oak’s dog chases a herd of sheep straight off of a cliff. At this novel’s end, Gabriel wins the hand of Bathsheba Everdene.

ANSWER: ***Far from the Madding Crowd***

[10] *Far from the Madding Crowd* was written by this English novelist, who also penned *Jude the Obscure* and *Tess of the d’Urbervilles*.

ANSWER: Thomas **Hardy**

16. The second of these quantities decreases when a transition metal ion forms a complex with ligands in the nephelauxetic effect. For 10 points each:

[10] Name this set of 3 quantities, denoted A, B and C, that describe electrostatic repulsion in multielectron atoms. The B one scales both axes of a Tanabe-Sugano diagram.

ANSWER: **Racah** parameters

[10] Tanabe-Sugano diagrams depict the electron configuration of these orbitals. They can be divided into  $e_g$  [“e-sub-g”] and  $t_{2g}$  [“t-2g”] sets. These orbitals can hold 10 electrons and their angular momentum quantum number, l, is 2.

ANSWER: **d** orbitals

[10] Tanabe-Sugano diagrams are to predict the absorptions of molecules with this geometry, in which an atom is surrounded by six ligands.

ANSWER: **octahedral**

17. This language hit its nadir in literary usage during the early Abbasid Caliphate. For 10 points each:

[10] Name this language of Ferdowsi, which grew out of an earlier “Middle” variety spoken by the Sassanids.

ANSWER: New **Persian** [accept **Farsi**]

[10] This 9th to 10th century empire, which revived the official use of Persian, had its capital at Bukhara. This state was largely succeeded by the Ghaznavid empire, which a *ghulam* from it named Sabuktigin founded.

ANSWER: **Samanid** empire [or **Sāmāniyān**]

[10] This city was conquered by the Samanids while it was the headquarters of the Karluk Khans. The river this city is named for was the site of a 751 CE battle between the Tang dynasty and Abbasid caliphate.

ANSWER: **Talas** [or **Taraz**; or **Taras**; accept Battle of the **Talas** River]

18. This artist created the Carnegie Prize-winning *Still Life With Game*, now housed at the Met, as part of the “Return to Order” movement imitating the old masters. For 10 points each:

[10] Identify this artist, who created *The Pool of London* and several other paintings depicting the Thames.

ANSWER: Andre **Derain**

[10] The bright paintings of Derain and this other artist, the creator of *The Dance*, were dubbed *Les Fauves*.

ANSWER: Henri **Matisse**

[10] The depiction of this person in a violent purple in Matisse’s *Woman with a Hat* was central to the Fauvist controversy. She is also shown with the title feature on her face in *The Green Stripe*.

ANSWER: **Amelie** Matisse [or Matisse’s **wife** or clear equivalents; prompt on **Matisse**]

19. The alliance between these two powers sparked the greatest number of trade agreements called “Capitulations” made by one of them. For 10 points each:

[10] Identify these two powers whose alliance was mediated by Antonio Rincon and various *dragoman* interpreters. These two powers each actively promoted Calvinist interests in Europe.

ANSWERS: (Kingdom of) **France** AND **Ottoman** Empire [or **Osmanli** Imparatorlugu]

[10] Constant wars over this peninsula against the Habsburgs, often involving *condottieri* mercenaries, prompted France to ally with the Ottoman Empire.

ANSWER: **Italian** peninsula [or **Italy**]

[10] Francis I was captured at this 1525 battle during the Italian Wars, after which he signed the Treaty of Madrid.

ANSWER: Battle of **Pavia**



20. To remind this character of his identity, Charles and Ubaldo raise a shield to his face so that he may see his reflection. For 10 points each:

[10] Name this knight. He barely overcomes his passion for a certain Saracen sorceress in time to defeat the pagans in battle.

ANSWER: Rinaldo

[10] Rinaldo and his fellow knights appear in an epic retelling of the First Crusade titled for *this* Holy city *Delivered*, written by Torquato Tasso.

ANSWER: Jerusalem [accept Jerusalem Delivered]

[10] Rinaldo had earlier appeared in this Italian poet's romance *Orlando Furioso*. This poet was himself inspired to complete that work by Boiardo's *Orlando Innamorato*.

ANSWER: Ludovico Ariosto

21. Give the following about Mihaly Csikszentmihalyi's [CHEEK-sent-ME-high] theory of flow, for 10 points each.

[10] Csikszentmihalyi claimed that people were in a state of "flow" when both of these variables were high. According to his model, apathy arose when both of these variables were low.

ANSWER: skill level AND challenge level [both answers required; accept in either order]

[10] According to the "flow" model, this state arises from low skill and high challenge levels. Claustrophobia and PTSD are both on a spectrum of this type of disorder.

ANSWER: anxiety

[10] Csikszentmihalyi believed that flow only arose when people carried out tasks due to the intrinsic, instead of extrinsic, form of this. This term describes what compels people to do things.

ANSWER: motivation

22. Name some gay rights advocacy organizations, for 10 points each.

[10] This project founded by Dan Savage is named for a three-word assurance to gay youth that life will improve, despite harassment.

ANSWER: It Gets Better

[10] This organization changed its name to a common acronym for in order to indicate that it had embraced transgender issues. It distributes annual awards for fair and accurate representation of LGBT individuals in media.

ANSWER: GLAAD [or Gay & Lesbian Alliance Against Defamation]

[10] GOProud was founded by conservatives who weren't satisfied with the centrist stances of this organization which advocates gay rights within the Republican Party.

ANSWER: Log Cabin Republicans

23. This lake has no outlet, but is thought to feed the nearby Chu river deep underground. For 10 points each:

[10] Identify this massive endorheic lake in the Tian Shan mountains, the second-largest saline lake in the world after the Caspian Sea. It became a popular resort with sanatoria during Soviet times.

ANSWER: Issyk Kul

[10] Issyk Kul is a prime tourist attraction in this country, whose southern part contains part of the Ferghana Valley. The U.S. gave up its last Central Asian air base when it evacuated the Manas Air Base in this country in 2014.

ANSWER: Kyrgyzstan [or Kyrgyz Republic; or Kyrgyz Respublikasy; or Kyrgyzskaya Respublika]

[10] As in most of Central Asia, the legacy of Soviet rule means this language is the second-most spoken in Kyrgyzstan.

ANSWER: Russian [or Ruski]

24. Software tools like TopHat are used to identify alternative splice sites from the data output from this technology. For 10 points each:

[10] Name this transcriptomic technology that uses read counts from next-generation sequencing to evaluate precise gene expression levels in tissue with better accuracy and coverage than microarrays or SAGE.

ANSWER: RNA-Seq [or RNA sequencing; or whole-transcriptome shotgun sequencing]

[10] When targeting coding RNAs, RNA-Seq library construction often relies on capture through a tail on mRNAs consisting entirely of this nitrogenous base, which binds with thymine or uracil.

ANSWER: adenine [prompt on "A"]

[10] Cytoplasmic polyadenylation plays a part in the activation of these cells, whose zona pellucida hardens in a cortical reaction with the acrosome of another cell.

ANSWER: egg cells [or ova; or ovum]