

Western Invitational Tournament 2013

Editors 4 (Auroni Gupta, Jasper Lee, Jarret Greene, Tanay Kothari, Ankit Aggarwal, Sam Braunfeld) + VCU (Sean Smiley, Cody Voight, George Berry)

Tossups

1. One character with this profession allegedly married his sister and tried to fight a man who refused to lend him a knife before getting knocked out with a blackjack blow from a character named Bugs. Besides the ear-bereft Ad Francis, another man who participated in this activity at Princeton abandons Frances Clyne and absconds with his lover to Spain, where he brutally beats (*) Pedro Romero. Jerry Doyle narrates another story about them, which ends with Jack Brennan winning a bet after Brennan hits Jimmy Walcott below the belt; that story is "The Battler." For 10 points, name this profession practiced by Robert Cohn in *The Sun Also Rises* and the central character in "Fifty Grand," a gloved sport taught to Ezra Pound by Ernest Hemingway.

ANSWER: boxing [or boxers, people who box, etc.]

2. A ban on members of this dynasty returning to their home country was only lifted in 2002. The founder of this dynasty may have been the son of the semi-legendary Berold and had the epithet "Whitehanded." One member of this dynasty, known as "the Peaceful," was elected anti-Pope Felix V at the council of Basel-Ferrara-Florence. Another member of this house, Emanuel Philibert, was given his own buffer state in the Treaty of (*) Cateau-Cambresis. Following the unification of Italy, kings of Italy came from this originally Piedmont-Sardinian family. Its most famous member fought alongside John Churchill at Malplaquet and Blenheim. For 10 points, name this royal house whose members include the tactician Eugene.

ANSWER: House of Savoy [or Savoia; or Savoyard]

3. One compound that is sometimes mistaken for this resource is created by crushing jatropha seeds. Companies such as Lignol and Novozymes have worked to create the "cellulosic" form of this resource from wood chips. Support for American production of this resource has led to decreased use of MTBE, and previously spurred on a controversial 54-cent tariff on (*) imports of this resource from its most extensive user. Concerns about food prices have caused criticisms about the use of land to produce this resource, which powers automobiles in Brazil. For 10 points, name this petroleum substitute that is often made of sugarcane or corn.

ANSWER: ethanol

4. This thinker identified personal, social, and environmental conversion factors as limits to a framework he proposed. He opined that the impartial spectator was a better alternative to the veil of ignorance in defending his teacher John Rawls's "justice as fairness" concept in *The Idea of Justice*. He used what people can do as the basis for the capability approach he developed in his article "Equality of What?" This thinker brought attention to (*) female infanticide in his article "More Than 100 Million Women Are Missing." In another work, he pointed to a rise in food prices, rather than a shortage of supply, as the cause of an event which killed 3 million in his native West Bengal. For 10 points, name this author of *Poverty and Famines*, an Indian welfare economist.

ANSWER: Amartya Sen

5. "Old Buks" raises his orphaned granddaughter, the aspiring singer Veronica, in this author's play *Valley Song*. This author's only surviving novel ends with David being crushed by a bulldozer after reforming his life and being entrusted with a baby. In another play by this author, Gladys returns to the mental hospital after having lunch with Steve, during which she mistakenly calls her plant-loving husband (*) Piet an informer. This author of *A Lesson from Aloes* wrote a play in which Ethel becomes a pen pal for Zachariah and Morris. Sam and Willy dance after failing to get Hally to fly in a kite in a play by this author of *The Blood Knot*. For 10 points, name this South African playwright of *Master Harold...and the Boys*.

ANSWER: Athol Harold Lannigan Fugard

6. The only surviving works of Theophanes the Greek were created while he lived in this modern-day country, where he produced *Dormition of the Virgin*. One school of art in this modern-day country included an artist whose depiction of *The Last Supper* shows Judas as a tattered, misshapen man that surprises the disciples. Yet another artist from this country created a series of works named *Proun* over his lifetime. Among the ranks of The Wanderers in this country are a painter who depicted eleven suffering men (*)

towing a large boat upstream. In this country, the painter of *White on White* founded an art movement known as Suprematism. For 10 points, name this country, home to Nikolai Ge, Ilya Repin, and Kasimir Malevich.
ANSWER: Russian Federation [or Rossiia; or Rossiyskaya Federatsiya]

7. The apocryphal text “Apocalypse of the Blessed Virgin” sees Mary ask this figure about all human knowledge. This figure’s epithet in Catholic doctrine, “Fortitudo Dei,” refers to his role in incarnation and consolation. He appears as a traveler and questions another figure on facets of faith like *ihsan* and *zakat* in his namesake hadith. This figure advised Ibrahim to pass by several towns before deciding on (*) Mecca as the site of the Kaaba. During the “Night of Destiny,” this figure was relayed an entire text from the highest to the lowest of the seventh heavens, whereupon he relayed it over time to its mortal messenger. For 10 points, name this angel who narrated the Quran to Muhammad.
ANSWER: Gabriel [or Jibr’ail]

8. A therapist in this movie appears on a bus labeled the “Asian Invasion.” The main characters of this movie accept a bet where they must score at least a 5.0 in a contest at the Benjamin Franklin Hotel in order to win back funds to open a restaurant. One of those characters claims she lost her job for sleeping with everyone in her office, while the other throws A (*) *Farewell to Arms* out of his window and says he “apologizes on behalf of Ernest Hemingway, because that’s who to blame here.” One character in this movie says that “when life reaches out at a moment like this, it’s a sin if you don’t reach back.” For 10 points, name this 2012 film about a psychiatrically disturbed couple that enter a dancing competition, starring Bradley Cooper and Jennifer Lawrence.
ANSWER: Silver Linings Playbook

9. For one type of these features, small ones appear to pass through the slower-moving large ones, leading to comparisons of that type with solitons. Similar larger-scale features are called draas. The main processes leading to the creation of these features are surface creep and (*) saltation, which are both aeolian. These features are frequently found in ergs. The slip face of these features forms an angle of about 34 degrees with the surface, the angle of repose for its constituent material. Vegetation fixes the arms of parabolic ones, which point upwind. Other types of these features include longitudinal ones and barchans, or the crescent type. For 10 points, name these large accumulations of sand.
ANSWER: sand dunes

10. A military leader from this region developed badass war wagons which helped him win the Battle of Deutschbrod. One blind king of this region inspired the Black Prince with his bravery before dying at the Battle of Crecy. Despite the protection of Sigismund of Luxembourg, a lecturer in this region’s Charles University was burnt at the stake for his heretical teachings. A king of this region, Frederick the Winter King, was defeated at the Battle of (*) White Mountain here. Resistance fighters assassinated Reinhard Heydrich, who administered a protectorate named after Moravia and this region, which together formed the modern Czech Republic. For 10 points, name this area of Central Europe, home to Jan Hus and some defenestrations of Prague.
ANSWER: Bohemia [or Czechy; or Boheme; prompt on Czech Republic or Czechoslovakia]

11. One character in this novel contracts a fever after getting stabbed by a prostitute’s stiletto and is shot to death while attempting to reach a hospital. A woman who finds scissors uses them to kill a group of armed hoodlums that try to trade their food for sexual favors in this novel, whose central couple is accompanied by the “dog of (*) tears”. This novel opens with a theft of a car from an old man stuck in traffic. This novel includes an unnamed ophthalmologist and his wife, the only person in the novel who is unaffected by the title condition. For 10 points, name this novel about a city whose residents lose their sense of sight, written by José Saramago.
ANSWER: *Essay on* Blindness [or *Ensaio sobre a* cegueira]

12. The output of these objects is a solution to the paraxial form of the Helmholtz equation, and so can be modeled as a Gaussian beam. Einstein’s A and B coefficients determine the efficiency of these devices. This device was preceded by a similar one using NH₃ created by Gordon, Zeiger, and Townes. One technique used in these devices delays oscillation by modifying the (*) Q factor of the resonating cavity. A popular gas version of this device excites helium to a metastable state, which then transfer energy to neon to form an inverted population. The first one of these devices was created by Theodore H. Maiman using a ruby crystal. For 10 points, name this

device that transforms various forms of energy into electromagnetic radiation.

ANSWER: **lasers** [or **light amplification by stimulated emission of radiation**]

13. In this state, Fort Fisher, known as the “Gibraltar of the South,” protected the last major Confederate port, which finally fell in January 1865. Clarence Lightner became the first black mayor of a southern, white-majority city in this state. The battle of Bentonville was the largest Civil War battle in this state. The *USS Monitor* was sunk in a (*) storm off the coast of this state. The Woolworth’s department store removed its policy of segregation after a series of sit-in protests in this state’s city of Greensboro. During the Revolutionary War, the Battle of Guilford Courthouse was fought here. For 10 points, name this state where, in 1903, Wilbur and Orville Wright flew a plane in Kitty Hawk.

ANSWER: **North Carolina**

14. This composer’s *Concerto Grosso* begins and ends with the exact same Intrada movement. This composer’s fifth symphony takes some music he wrote for his opera *The Pilgrim’s Progress* and ends with a passacaglia that begins in the low strings. He used the psalm tune “Why fum’th in fight” for another work, which he scored for a solo string quartet and two string orchestras. This composer inserted the (*) folk tune “Lovely Joan” into the middle of one work and set several Walt Whitman poems to music in his first symphony. He used 16th century music for two works, one based on an anonymous folk song, the other based on a Renaissance composer. For 10 points, name this composer of *Fantasia on Greensleeves*, *Fantasia on a Theme by Thomas Tallis*, and *A Sea Symphony*, a Briton.

ANSWER: Ralph (rafe) **Vaughan Williams**

15. After a deadly epidemic in this city, Baldassere Longhena designed a building here that was dedicated to health, the Santa Maria della Salute. Adrian Willaert founded a musical school in this city, which utilized multiple physically separated choirs singing in alternation. This city originated a style of ornate glass-working called Murano glass. A blue and gold face with images from the Zodiac adorns a famous (*) clock tower in this city’s Piazza San Marco. The painter Canaletto was known for his paintings of this city, home to the studio of the painter Tintoretto. For 10 point, name this Italian city where one may find the Palazzo Dandolo, the Doge’s Palace, and many other buildings along its Grand Canal.

ANSWER: **Venice** [or **Venezia**]

16. This man commonly told his lord that his “barbaric belly” contained nothing but a faithful heart. This man escaped a death sentence for theft by pleading to the provincial governor “Do you not want to crush the two barbarian tribes?” A copious series of bribes earned this man the command of the Pinglu Army. His rise to power was aided by (*) Li Linfu’s fear of a potential rival. The appointment of Chancellor Yang Guozhong in Li’s place led to this man’s most famous action, which indirectly led to the murder of Yang and the execution of the Emperor’s consort, Yang Guifei. In Luoyang, he declared himself to be the founder of a Yan dynasty on the lunar new year in 756. For 10 points, name this Sogdian general who rebelled against the Tang dynasty in the 750s.

ANSWER: **An** Lushan

17. In distributed systems, this type of clock is an array of logical clocks passed between the processes. Cortes and Vapnik first created a way of orienting a hyperplane to maximize the margin, implementing a binary linear classifier referred to as “machines” of this type. SIMD instructions are usually used to operate on data in these data structures. In C++, this is a template for a dynamic sequence that can efficiently add or remove elements (*) only from its end. They are used to define paths in the EPS and SVG formats, allowing them to be scaled without losing quality, thus naming a type of graphics contrasted with raster graphics. For 10 points, identify this computer science term often applied to one-dimensional arrays.

ANSWER: **vectors** [or support **vector**s]

18. A critique of this concept based on an urn full of black balls that taste like licorice was put forward by Wesley C Salmon. Reichenbach provided a pragmatic justification of this concept, which is ampliative but not demonstrative. One philosopher argued that this concept relies on nature being governed by unchanging laws, which does not have a basis in demonstrative or probable reasoning. That philosopher proposed a skeptical solution to the (*) “problem” of this concept. Richard Rudner argued that this concept should be used to form a sufficient reason. For 10 points, name this type of reasoning employed by Hume in which one infers a

conclusion based on specific examples, unlike in deductive reasoning.

ANSWER: induction [or inductive reasoning; or inductive inference]

19. One poem by this author addresses a “stern cold man” whom the speaker refuses to believe is actually dead and closes “It’s not true, I am frightened, I am frightened of you.” This author of “A Woman and her Dead Husband” wrote a poem in which the speaker picks up a “clumsy log” to throw at a water-trough that the title creature had come to. In a story by this author, Paul becomes involved with Bassett’s (*) betting to provide extra money for Hester, but dies after picking Malabar to win a race while riding the title toy. This author of “Snake” and “The Rocking Horse Winner” wrote about the Wragby Estate gamekeeper Oliver Mellors, who has an affair with the wife of the crippled Clifford. For 10 points, name this author of *Lady Chatterley’s Lover*.

ANSWER: David Herbert Lawrence

20. A perfect elastomer may be defined as a polymer in which this quantity is independent of the extension of the random coil. An infinitesimal change in this quantity is equal to $TdS - PdV$. The slope of this quantity over temperature yields the heat capacity at constant volume; also like temperature, this state function remains constant in an isothermal process. For a monatomic ideal gas, this quantity is equal to $\frac{3}{2}$ times nRT . When the product of PV is added to this quantity, (*) enthalpy is obtained. If the system is isolated, this quantity cannot change via the first law of thermodynamics, which gives it as the sum of the heat and work done on a system. For 10 points, give this measure of the total amount of energy possessed by a thermodynamic system, symbolized U .
ANSWER: internal energy [prompt on U until mentioned; accept just internal after “energy” is mentioned]

Tiebreakers

21. One of these creatures was a ferryman for the Evenus River. Two of these creatures, Rhoecus and Hylaeus, were killed by Atalanta. One of them attempted to abduct the bride of his half-brother Pirithous. That incident involving Eurytion led to a battle in which these people lost to the (*) Lapiths. After the death of Pholus, one of them abducted Deianira and asked her to pour his poisoned blood on a cloak that Heracles put on. While most of this race came into being after the union of Ixion and Nephele, an immortal one of these people was a son of Cronus and Philyra who mentored heroes such as Jason, Asclepius, and Achilles. For 10 points, name this race, whose members included Nessus and Chiron, both of which were half man and half horse.

ANSWER: centaurs

22. Stelzer et. al observed that the Mendelian transition to this process coincided with dwarfism in a population of *Brachionus calyciflorus*. *Daphnia* exhibits the “cyclic” variety by switching between it and its counterpart depending on environmental conditions. The obligate form of this process, known as thelytoky, is not as common as the other types: deuterotoky and arrhenotoky. First observed by Charles Bonnet in (*) aphids, this process is exclusively used by many species of whiptail lizards and is used sometimes by worker bees if the queen is dead. If meiosis is involved, this process is termed “automictic;” in all varieties the result is usually female. For 10 points, name this form of asexual reproduction in which an embryo forms without fertilization.

ANSWER: parthenogenesis [prompt on asexual reproduction; prompt on reproduction; prompt on virgin birth; accept all forms mentioned in this question, including obligate parthenogenesis, thelytoky, deuterotoky, arrhenotoky, cyclic parthenogenesis, automictic parthenogenesis, apomictic parthenogenesis, and apomixis, until they are mentioned]

Bonuses

1. Answer some questions about the recent Italian elections, for 10 points each:

[10] Italy's outgoing prime minister is this technocrat, who was tasked with maintaining stability after Silvio Berlusconi resigned. His Civic Choice party did poorly in the election.

ANSWER: Mario **Monti**

[10] This leader of the Italian center-left will be the next Prime Minister. His Democratic Party will form a coalition with Monti's supporters in Parliament, though it won't be sufficient to form a majority in both houses.

ANSWER: Pier Luigi **Bersani**

[10] Addressing this incredibly successful Italian football club that he owns, Silvio Berlusconi admitted "I race to win." He didn't, but at least he did better than Mario Monti.

ANSWER: AC **Milan** [or Associazione Calcio **Milan**]

2. The point of performing this activity is to rejuvenate the importance of arche-writing by displacing the opposition between speech and writing. For 10 points each:

[10] Name this activity which explores the contradictions posed by binaries like "inside" and "outside," revealing them to be constructs. In layman's terms, it involves taking ideas apart and examining the biases within.

ANSWER: **deconstruction** [word forms are fine]

[10] The methods and aims of deconstruction are laid out in this French thinker's unreadable tome *Of Grammatology*.

ANSWER: Jacques **Derrida**

[10] In an essay titled for this author's "pharmacy," Derrida deconstructs a "badly composed" work by him, in which Thoth suggests that writing is a remedy for the loss of memory in the parable of the invention of writing.

ANSWER: **Plato** [the work is *Phaedrus*]

3. Name some comestibles that fueled trends in European history, for 10 points each.

[10] One of the primary motivations behind Napoleon's invasion of the Iberian Peninsula was to stop English trade, which included this fortified wine, Portugal's main export to England.

ANSWER: **port** wine [or vinho do **porto**]

[10] Europe's population boom in the 18th and 19th centuries was largely fueled by increased growth of this crop. Blight on this crop caused a major famine in Ireland.

ANSWER: **potato**

[10] Before water could be efficiently sanitized, this form of beer was a major source of nutrition. Lighter than porter, this beer is characterized by a large amount of malt present during the brewing process.

ANSWER: **ale**

4. Nuclear pasta phases, including spaghetti, lasagna, and meatball, occur between the homogeneous core and inhomogeneous crust of these stars. For 10 points each:

[10] Name these stars thought to have a superfluid core. Much of our information about their structure comes from their namesake oscillations in soft gamma repeaters.

ANSWER: **neutron** stars

[10] Nuclear pasta is also believed to form in the core-collapse type of these stellar explosions.

ANSWER: **supernovae**

[10] The r-process, which occurs in core-collapse supernovae, is one form of this process. The slower s-process is another form that occurs in asymptotic giant branch stars.

ANSWER: **nucleosynthesis** [prompt on **fusion**]

5. Alabanda inspires the title character of Friedrich Hölderlin's novel *Hyperion* to travel to Greece and take up arms against this empire. For 10 points each:

[10] Name this empire, from which Ali Pasha attempts to break away, but fails and gets his daughter Haydée sold into slavery in *The Count of Monte Cristo*.

ANSWER: **Ottoman** Empire

[10] Pangloss asks a dervish about the reason for man's suffering when he travels to the Ottoman Empire with Paquette, Cunégonde, and the title character of this Voltaire novel.

ANSWER: Candide

[10] The Ottoman overseer Abidaga ruthlessly abuses the workers who build this object in another novel. Alihodja's ear is pinned to this item when he displays reluctance to defend it against Austrians in World War I.

ANSWER: the bridge on the Drina [accept anything mentioning "bridge" and "Drina" or "bridge" and "Visegrad"; or Mehmed Paša Sokolović Bridge; prompt on bridge alone]

6. For a set S, these are points such that every neighborhood has non-empty intersection with S. For 10 points each:

[10] A point is one these points if there is a sequence in that set not containing the point that converges to it.

ANSWER: limit point [or accumulation points]

[10] A set is said to have this property if it contains all its limit points. In a Hausdorff space, or more generally a T_1 space, singleton sets have this property.

ANSWER: closed

[10] Since the complements of open sets are closed, and the entire space is defined to be open, this set, which contains no elements, must always be closed.

ANSWER: empty set [or null set]

NOTE TO MODERATOR: accept, but DO NOT read the alternate answers to the first bonus part.

7. In this conflict, armed forces were sent across the Maumee River to harass enemy forces, and it was fueled by a dispute over prime agricultural land. For 10 points each:

[10] Name this conflict between two states over the namesake area on Lake Erie in the 1830's. The loser was gifted a northern peninsula.

ANSWER: Toledo War [or Ohio-Michigan War; accept Border War]

[10] The Toledo war was fought between Michigan and this other state which would gain possession of the city of Toledo.

ANSWER: Ohio

[10] The Toledo War ended when this convention passed a resolution setting new state and territory boundaries. Its nickname refers to the cold spell that was happening outside while it was being convened.

ANSWER: Michigan Territorial Convention [or Frostbitten Convention]

8. The name of this giant was also the name of one of Heimdall's mothers. For 10 points each:

[10] Name this lover of Thor and mother of Magni.

ANSWER: Jarnsaxa

[10] Magni pushes this giant's foot off of Thor's throat, allowing Thor to slay him. That battle took place after this giant's steed, Gullfaxi, lost to Odin's Sleipnir.

ANSWER: Hrungnir

[10] Sleipnir is the offspring of Svadilfari and this Norse trickster god, who was later imprisoned under the dripping venom of a snake for arranging the death of Baldur.

ANSWER: Loki

9. It differed from earlier pieces in the same style since it used realistic dimensions and emphasized emotion over opulent displays of power. For 10 points each:

[10] Name this bronze sculpture, the first of its kind since antiquity. It depicts Erasmo da Narni and was sculpted by Donatello.

ANSWER: Equestrian statue of Gattamelata

[10] The statue of Gattamelata was this type of sculpture which features the subject riding on a horse.

ANSWER: equestrian

[10] The Gattamelata is found in this Italian city, whose Palazzo della Ragione contains a large salone. Donatello also made many sculptures for its Basilica of St. Anthony.

ANSWER: Padua

10. The title character of this novel works as a lecturer in medieval history. For 10 points each:

[10] Name this comedic novel where the protagonist's career in academia is almost jeopardized by his relationship with Margaret Peel.

ANSWER: Lucky Jim

[10] *Lucky Jim* author Kingsley Amis also wrote *Colonel Sun*, the first novel to feature this character after the death of his creator Ian Fleming.

ANSWER: James **Bond** [also accept **James**, if anyone really gives that as the answer]

[10] In this other Amis novel, divorcee Maurice Allington runs the title inn, where he lives with his daughter and 80-year old father and encounters the ghosts of Thomas Underhill and his daughter.

ANSWER: *The **Green Man***

11. Name some popular podcasts, for 10 points each.

[10] This podcast began in 2007 as an excuse for Clerks-creator Kevin Smith and producer Scott Mosier to shoot the shit, but it soon spawned a whole series of podcasts including Fatman on Batman and Tell ‘em, Steve Dave!

ANSWER: **SModcast**

[10] Arguably the most popular podcast is the one named after this former star of the UK version of *The Office*. His three-year stint hosting the Golden Globes resulted mostly in people being mad at him for being mean.

ANSWER: Ricky Dene **Gervais**

[10] The 2011 and 2012 awards for best political podcast went to this talk show hosted by comedian Sam Seder.

ANSWER: The **Majority Report**

12. This character’s final appearance is in the novel *Judgement Day*. For 10 points each:

[10] Name this youth, subject to the racism and anti-Semitism of the violent Old Man O’Brien. After dropping out of school, he runs away from home before coming back to his family and getting drunk and fat.

ANSWER: **Studs Lonigan**

[10] Studs Lonigan was created by this Irish-American author, who included him in such novels as *Young Lonigan* and *The Young Manhood of Studs Lonigan*.

ANSWER: James Thomas **Farrell**

[10] Both Lonigan and Farrell were from this American city, the setting for many of Saul Bellow’s works. A Carl Sandburg poem about this city declares it a “Stacker of Wheat” and “Hog Butcher of the world.”

ANSWER: **Chicago**

13. A chronicler claimed that this man overthrew his uncles Daffyd and Rhodri, who were born of incestuous relationships. For 10 points each:

[10] Name this member of the House of Aberffraw, the final king of his nation. He signed the 1218 Treaty of Worcester with Henry III to consolidate his conquest holdings.

ANSWER: **Llywelyn the Last** [or **Llywelyn II**; or **Llywelyn** ap Gruffydd, pronounced “lou-ellen”]

[10] Llywelyn the Last was the final king of this country before it was annexed by England. He was declared its honorary “prince” in the Treaty of Montgomery, a title now used to designate the heir to the English Throne.

ANSWER: **Wales** [or **Cymru**]

[10] This Welsh national hero and last Welshman to hold the title “Prince of Wales” led an early 14th century Marcher rebellion against Henry IV after a dispute with the Lord of Ruthin.

ANSWER: Owain **Glyndŵr**

14. This native of Penzance wrote sappy poems like “On the Mount’s Bay” and “The Sons of Genius,” but abandoned that pursuit for science at the age of seventeen. For 10 points each:

[10] Name this laughing gas enthusiast best known for discovering sodium, barium, and several other alkali and alkaline earth metals.

ANSWER: Sir “Not Every Team Can Afford Me” Humphry **Davy**, 1st Baronet

[10] Sir Humphry Davy’s peers at the Royal Institution included Henry Cavendish, whose biggest claim to fame was his experiment which yielded a measure of the constant of this fundamental force.

ANSWER: **gravity** [accept word forms]

[10] Davy’s design for a safety lamp for miners was stolen by this engineer, who came up with the standard gauge and built one of the first steam locomotive railway lines in the world between Liverpool and Manchester.

ANSWER: George **Stephenson**

15. Answer the following about rulers who attacked Baghdad, for 10 points each.

[10] This Mongol founder of the Ilkhanate of Persia led a famous 1258 sack of Baghdad in which the Tigris ran black from the ink of all the books cast in it. He also executed the last Abbasid caliph by trampling him in a rug.

ANSWER: Hulagu Khan

[10] This great ruler of the Safavid Dynasty led a Qizilbash army to capture Baghdad in 1623 after the death of Ottoman Sultan Osman II following a janissary uprising.

ANSWER: Shah Abbas I of Persia [or Abbas the Great; prompt on Abbas]

[10] Murad IV reclaimed Baghdad from the Safavids in 1638. An earlier monarch named Murad perished at a 1389 battle named for this place, which is currently a partially recognized republic seeking to sever ties with Serbia.

ANSWER: Kosovo Polje [or the field of blackbirds]

16. In this play, Ferdinand and Isabella forgive everyone in the end after they are unable to find out who killed Fernán Gómez de Guzmán. For 10 points each:

[10] Name this play by Félix Lope de Vega in which Frondoso is almost hanged for grabbing a crossbow from Guzmán, who attempts to take his lover, Laurencia.

ANSWER: *The Sheep Well* [or *Fuenteovejuna*]

[10] Félix Lope de Vega was a playwright from this European nation's Golden Age, which also featured Pedro Calderón de la Barca.

ANSWER: Kingdom of Spain [Reino de Espana]

[10] In this other Lope de Vega play, Tristan fabricates a connection to royal lineage to allow Teodoro to pursue his romance with the Countess of Belflor, who jealously claims Teodoro after watching him hit on Marcella.

ANSWER: *The Dog in the Manger* [or *El perro del hortelano*]

17. This saint was buried along the Via Faminia following his execution, which occurred while he tried to convert Emperor Claudius Gothicus. For 10 points each:

[10] Name this saint of courtly love, who lends his name to a February holiday.

ANSWER: Saint Valentine

[10] The first representation of Saint Valentine was in this 1493 medieval marvel compiled by Hartmann Schedel. This document is named for the city where Albrecht Dürer made his residence.

ANSWER: *The Nuremberg Chronicle* [or *Liber chronicarum*; or *Die Schedelsche Weltchronik*]

[10] The Nuremberg Chronicle is organized into seven ages; the first age is ended by this biblical event survived by Shem, Ham and Japheth, among others.

ANSWER: Deluge [or Genesis flood narrative or equivalent answers about the Biblical flood which Noah survived]

18. The creation of deuterium, helium and lithium is believed to have happened shortly after this event. For 10 points each:

[10] Identify this event in which the universe rapidly expanded from a singularity.

ANSWER: Big Bang

[10] For a few millionths of a second after the Big Bang, this type of matter, consisting of certain asymptotically free particles, existed. One of the signs of this matter in heavy ion collisions is the suppression of J/psi mesons.

ANSWER: quark-gluon plasma [or quark soup; or QGP]

[10] QGP is a prediction of this quantum theory of the strong force, which has the properties of confinement and asymptotic freedom

ANSWER: quantum chromodynamics [or QCD]

19. This philosopher differentiates between three primary generic cognitive areas in which human interests generate knowledge: work, practical, and emancipatory knowledge. For 10 points each:

[10] Name this philosopher who transformed our ideas of the public sphere in *The Structural Transformation of the Public Sphere*.

ANSWER: Jürgen Habermas

[10] Habermas believed that any legitimate modern law must allow the citizen the private type of this concept. In international relations, this term denotes that a territory has some degree of self-rule granted by its parent country.

ANSWER: autonomy

[10] In *The Dialectics of Secularization*, Habermas tried to argue for the “methodological” form of this philosophy, which would be more accommodating to religious concerns in public discourse.

ANSWER: atheism

20. Seven men are looking at the central action of this painting, where the corpse of Adriaen het Kint lies on a table. For 10 points each:

[10] Name this painting, in which a physician uses a scalpel to demonstrate how the muscles in the human arm are arranged.

ANSWER: *The Anatomy Lesson of Dr. Nicolaes Tulp*

[10] *The Anatomy Lesson* is a painting by this Dutch artist, who also painted *The Night Watch* and *Aristotle Contemplating a Bust of Homer*.

ANSWER; **Rembrandt** Harmenszoon van Rijn

[10] In this painting by Rembrandt, his first work, a man in a red and white cloak holds up his left hand in protest as men in white are about to throw objects at him. The left of this painting is dominated by a man on horseback.

ANSWER: *The Stoning of St. Stephen*

21. One of these diseases is screened by evaluating blood levels of prostate-specific antigen. For 10 points each:

[10] Chemotherapy is used to treat what group of diseases characterized by malignant tumors resulting from unregulated cell growth?

ANSWER: **cancer** [or **malignant neoplasm**; accept any specific forms given as answers]

[10] The GTPase Ras is an example of the “proto” variety of these genes, which are either mutated or highly expressed in tumor cells.

ANSWER: proto-**oncogenes**

[10] The CellSearch system is used to track the number of these cells, which provide the seeds for metastasis and the spread of cancer by breaking off from a primary tumor and entering the bloodstream.

ANSWER: **circulating tumor** cells [or **CTCs**; prompt on partial answer]

22. Charles Avison arranged twelve of this composer’s harpsichord sonatas in *concerto grosso* form. For 10 points each:

[10] Identify this composer of over 500 harpsichord sonatas for the Infanta Maria Barbara. He was the son of Alessandro, another renowned Italian composer.

ANSWER: Domenico **Scarlatti**

[10] Domenico Scarlatti composed a piece of this type for a ten-part choir, based on a source text that asks “Quis est homo?” Another popular work of this name in F major was written by Giovanni Pergolesi.

ANSWER: ***Stabat Mater Dolorosa***

[10] Avison greatly admired the music of Jean-Philippe Rameau, a composer from this country that fought the “War of the Buffoons” with Italy.

ANSWER: **France** [or **French** Republic; or Republique **française**]