Harvard Fall Tournament X

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Finals 1

Tossups

1. This man sardonically responded to Dolores Ibárruri by saying "We have passed." This man's rule was condemned in the passage of the Law of Historical Memory. He used slave labor to construct his mausoleum in the Valley of the Fallen, and this man outlawed all trade unions except the Vertical Syndicate. A pair of airplane crashes killed this man's rivals (*) Jose Sanjurjo and Emilio Mola. This man's forces were opposed by the Abraham Lincoln Brigade, and he was supported by the Condor Legion as well the Falange ["fah-LON-hay"]. This man was succeeded by Juan Carlos I. For 10 points, name this Fascist dictator of Spain.

ANSWER: Francisco Franco (Bahamonde)

2. One character in this novel has a dream that he is in a sinking ship with his mother and sister, and is told by another character "We shall meet in the place where there is no darkness." Mr. Charrington sells the protagonist of this book a (*) pink coral paperweight. A book by Emmanuel Goldstein within this book describes how the Middle repeatedly overthrow the High with the Low's Help. The protagonist of this book exclaims "Do it to Julia!" after being threatened with a cage of rats by O'Brien in Room 101. For 10 points, name this novel in which Winston Smith begrudgingly admits he loves Big Brother.

ANSWER: 1984 (or Nineteen Eighty-Four)

3. One man in this office was ousted by Operation Orient Express and wrote the book *An Agenda for Peace*. One man in this office was criticized for connections to the Contecna company during the Oil-for-Food scandal. A clerical job with the *Wehrmacht* led to controversy for (*) Kurt Waldheim, a holder of this position. This position was first held by Trygve Lie, and one holder of this office died when his plane crashed in Zambia; that man was Dag Hammarskjöld ["hammer-sholed"]. Kofi Annan previously held this position that heads an organization whose bodies include the Security Council and General Assembly. For 10 points, name this position currently held by Ban Ki-Moon.

ANSWER: <u>Secretary-General</u> of the <u>United Nations</u> (prompt on just "Secretary-General" or "UN Leader")

4. The relative predominance of one oxe-phos-phetane intermediate over another explains the selectivity for this geometry in the Wittig reaction. Compounds with this orientation are often minor products of elimination reactions due to steric hindrance. In a platinum-containing (*) anti-cancer drug, the two ammonia ligands have this relative orientation. Almost all biologically-derived unsaturated fatty acids have this relative orientation, and unsaturated fats with the opposite of this orientation are less healthy than those with this orientation. For 10 points, name this orientation where both substituents are on the same side of the double bond. ANSWER: cis (accept Z)

5. This author wrote a story in which a man with a prominent pimple learns that a deceased woman used to fraudulently sell snake flesh as fish, while in another story Masago lies about asking another man to kill her husband. This author described a thief's failed attempt to (*) escape Hell in "The Spider's Thread." In one story by this man, a servant robs an old woman after finding her robbing corpses, while in another story, testimonies by a woodcutter, a thief, and a ghost contradict over how a samurai was killed in the title location. For 10 points, name this Japanese author of "In a Grove" and "Rashomon."

ANSWER: Ryūnosuke Akutagawa

- 6. A dissent in this case compared the majority opinion to the "mystical aphorisms of a fortune cookie" and commanded "ask the nearest hippie." This case overturned *Baker v. Nelson*, and the Chief Justice's opinion warned "[the Constitution] has nothing to do with it." The opinion in this case classified (*) dignity as a fundamental right, and this case formed from an Ohio case brought prior to the death of John Arthur from ALS. This case built off of the prior *Windsor v. U.S.*, and Kentucky county clerk Kim Davis refused to abide by this case's ruling. For 10 points, name this landmark Supreme Court Case that nationally legalized gay marriage.

 ANSWER: Obergefell v. Hodges (prompt on just "Hodges"; prompt on "gay marriage case" and variants)
- 7. DSIF and NELF induce stalling in this enzyme, and both the torpedo model and allosteric model describe how this enzyme releases its substrate. The five eukaryotic isoforms of this enzyme have varying sensitivities to the inhibitor alpha-amanitin. The holo form of this enzyme in bacteria recognizes the Pribnow box and -35 element upstream of the start site, and consists of two alpha subunits, two beta subunits, and the (*) sigma factor. In eukaryotes, this enzyme's preinitiation complex contains TFIID, which must bind to the TATA box before transcription can begin. The product of this enzyme undergoes polyadenylation and splicing. For 10 points, name this enzyme that synthesizes RNA from a DNA template.

ANSWER: **RNA** polymerase (prompt on just "pol" or "polymerase")

- 8. This national leader was a member of a group named after mutton pies, the Kit-Cat Club. During this man's time in office, riots erupted in response to the actions of John Porteous, who was lynched in Edinburgh. This man's regime was satirically known as the (*) "Robinocracy," and he was succeeded by the Earl of Wilmington after his resignation following the Battle of Cartagena de Indias. This leader was supported by Queen Caroline, and he prosecuted the War of Jenkins' Ear against the Spanish. This man came to power after the collapse of the South Sea Bubble. For 10 points, name this Whig, the first British Prime Minister. ANSWER: Robert Walpole, 1st Earl of Orford (accept either underlined part)
- 9. In 2013, the Joffrey Ballet performed a reconstruction of the original choreography of this ballet, which was lost after its initial onstage run. One section of this ballet contains a traditional circle dance known as the *khorovod*. Dancers in this ballet included "long-braided Lolitas," whose costumes were designed by Nicholas Roerich and who appear in dances like (*) "Games of the Rival Tribes." Based on Lithuanian folklore and divided into two sections titled "The Adoration of the Earth" and "The Sacrifice," this ballet depicts a pagan ritual where a girl is forced to dance herself to death. For 10 points, name this Igor Stravinsky ballet that caused a riot at its Paris premiere.

ANSWER: The <u>Rite of Spring</u> (or Le <u>Sacre du Printemps</u>)

10. This object was used to kill two hundred men and King Belus's twin brother Agenor. This object was responsible for the creation of seaweed to coral, and the Stygian Nymphs gave the wielder of this object a silver pouch that could expand in size. At Sephiros this object was used to slay (*) Polydectes, the brother of the fisherman Dictys. After this object was obtained, Chrysaor and Pegasus was born, and this object is displayed on the aegis. This object's most famous possessor used a pair of winged sandals and a mirrored shield to sever it from its owner. For 10 points, name this object which Perseus won after avoiding being turned to stone.

ANSWER: head of Medusa (prompt on "Medusa")

11. The cook Christine makes a mixture in this play to abort the dog Diana after it's impregnated by a mongrel. A group of peasants in this play are overheard singing a dirty song about the main characters, and an engagement in this play ends after one character tries to train another using (*) a riding whip. One character in this play repeatedly discusses opening a hotel at Lake Como and decapitates a pet canary. The title character resolves to commit suicide at the end of this play after being handed a razor by her valet Jean. For 10 points, name this play by August Strindberg about a Count's daughter.

ANSWER: Miss Julie

12. One composer from this country has his works catalogued using Searle numbers. Another composer with ancestry from this country used the technique of micropolyphony in his *Atmosphères*. A third composer from this country wrote a work consisting of 153 pieces of increasing (*) difficulty to teach his son the piano. The composer of *Mikrokosmos* was from this country, as was the originator of the symphonic poem, at whom women tossed undergarments as part of his namesake "mania." For 10 points, name this home country of György Ligeti, Béla Bartók, and Franz Liszt, who wrote a series of "rhapsodies" named for it.

ANSWER: Kingdom of Hungary (accept Magyar ország; accept Magyar Királyság)

13. During a battle in this state, Thomas Mullins messed up big time by forgetting to bring the ladders needed to scale the other side's fortifications. A group of Supreme Court cases arising from this state stated that the protections granted by the 14th Amendment did not apply to state laws; those were the (*) Slaughterhouse cases. One governor of this state enacted a series of wealth redistribution programs meant to make "every man a king." The pirate Jean Lafitte aided the American side at one battle in this state, which took place two weeks after the signing of the Treaty of Ghent. For 10 points, name this state governed by Huey Long and the site of the Battle of New Orleans.

ANSWER: Louisiana

14. Imaginary values of this quantity correspond to a phase shift between applied and resultant electric field in a material. This quantity is related to a material's density and polarizability in the Lorentz-Lorenz equation, and the OPL is equal to this quantity times the distance travelled by light. At (*) angles greater than the arcsine of the ratio of two of these quantities, light experiences total internal reflection. Snell's law equates the ratio of this value for two substances to the ratio of the sines of the angles of incidence and refraction. For 10 points, name this quantity equal to the speed of light in a vacuum over its speed in a given material.

ANSWER: index of refraction (accept refractive index or n)

15. This album contains a song opening with the sound of a jet engine which is then followed by "Dear Prudence"; that song on this album is "Back in the U.S.S.R." During the same sessions as this album "Hey Jude" was recorded, and (*) Charles Manson believed that one song on this album was a reference to apocalyptic war. One song from this album follows its title phrase with "life goes on," and "Ob-La-Di, Ob-La-Da" appeared on this album followed by Yellow Submarine and preceded by Sgt. Peppers Lonely Hearts Club Band. For 10 points, name this Beatles album nicknamed after its mostly blank cover art.

ANSWER: The White Album (accept just The Beatles before "Beatles" is read)

- 16. Zeresh tells her husband in this book to erect a pole fifty cubits tall, only for him to be impaled on it himself. One character in this book remembers Bigthan and Teresh after being read to to help sleep, and the title figure of this book was originally named Hadassah. The antagonist of this book uses (*) lots to select a date on the 13th of Adar and had earlier issued an edict in Susa after one character refused to kneel to him. This book opens with Vashti refusing to display her beauty, and Haman is executed in this book by King Ahasuerus with the help of Mordecai and the title woman. For 10 points, name this book celebrated on the holiday of Purim. ANSWER: Book of Esther (prompt on "Megillah")
- 17. The 6th section of this poem describes an object passing the "yellow spear'd wheat" and travelling by "processions long and winding" as "the mournful voices of the dirge pour'd around." The main conceit of this poem identifies a figure with "a western orb sailing the heaven" and a warbling (*) hermit thrush. The speaker of this poem decries when "the great star early droop'd in the western sky" and describes laying one of the title flowers on top of a coffin. This poem concerns the same subject as "O Captain! My Captain!" For 10 points, name this long elegy written for Abraham Lincoln by Walt Whitman.

ANSWER: When Lilacs Last in the Dooryard Bloom'd

18. The Wilkes Land mass concentration in Antarctica is hypothesized to be evidence for a cause of this event. A recent theory for this event hypothesizes that the ability to consume acetate increased *Methanosarcina* microbe populations, causing a global rise in (*) carbon dioxide levels. This was the only event of its type to affect insects. The major hypothesis for this event involves a mantle plume that caused unprecedented volcanism over a period of a million years in present-day Siberia. For 10 points, name this most severe of Earth's mass extinction events that occurred between the Permian and Triassic periods.

ANSWER: <u>Great Dying</u> (accept <u>Permian</u>-Triassic <u>Extinction</u> Event or <u>P-Tr Extinction</u> or end-<u>Permian</u> <u>Extinction</u> or Great <u>Permian</u> Extinction before "Permian" is read)

- 19. A man dressed in black and holding a long stick appears in a canoe at the right of this painting. Charles X awarded a gold medal to this painting at the Paris Salon. Tiny white dots in the background of this work depict workers in a distant field, while in the foreground, a small dog stares at the title object. A (*) chimney at the left of this work wisps out a small amount of smoke, and this painting originally title Landscape: Noon centers on Willy Lott's cottage. Three horses wear red harnesses as they ford the small lake at the center of this painting. For 10 points, name this landscape depicting the title farm conveyance, the masterwork of John Constable. ANSWER: The Hay Wain (accept Landscape: Noon before mention)
- 20. One book by this thinker contains a chapter on "The Perverse Implantation" that appears in a larger section rejecting the "repressive hypothesis." This thinker argued that epistemes are the foundation of epistemology in his *The Archaeology of Knowledge*. In one book, this thinker analyzed the gradual (*) ostracism of undesirables as a "Great Confinement," while in another book he examined the torture of Robert-François Damiens and the "unequal gaze" of Jeremy Bentham's Panopticon as part of the evolution of the prison system. For 10 points, name this 20th century French thinker who wrote *Madness and Civilization* as well as *Discipline and Punish*.

ANSWER: Michel Foucault

21. A poem within this story opens "In the greenest of our valleys" and describes a king "in the olden time long ago"; that poem in this story is "The Haunted Palace." This story is set in a building with a fissure running from the roof to the bottom, and the narrator of this story hears cracking and reverberating corresponding to the (*) book he is reading. The narrator of this story about a knight named Ethelred from the novel *The Mad Trist*, and he flees after discovering that Madeline was buried alive by her brother Roderick. For 10 points, name this Edgar Allen Poe short story that ends with the title estate sinking into the ground. ANSWER: "The Fall of the House of Usher"

Bonuses

- 1. This god created the "House of the Universe" that was dedicated to Inanna. For 10 points each:
- [10] Name this chief god of the Babylonian pantheon. The *Enuma Elish* describes his defeat of Tiamat.

ANSWER: Bel Marduk

[10] In the *Enuma Elish*, Marduk retrieves these items from the dead body of Kingu, who wore them as a breastplate.

ANSWER: **Tablets of Destiny**

[10] Marduk was also responsible for killing the bird-like monster Anzu. Anzu might have inspired this other monster's appearance in Greek mythology, in which this monster was slain by Bellerophon.

ANSWER: Chimera

- 2. Name some things related to the campaigns of civil rights movement, for 10 points each:
- [10] After Rosa Parks refused to give up her seat on a bus in this city, activists boycotted buses in this city for a full year.

ANSWER: Montgomery

[10] The Council of Federated Organizations launched this initiative to increase voter registration as much as possible in Mississippi over the course of the namesake season.

ANSWER: Freedom Summer (accept Mississippi Summer Project)

[10] This campaign was organized by Martin Luther King Jr. and the SCLC to reduce economic inequality, and it was carried out by Ralph Abernathy in the wake of MLK's assassination. A shantytown named "Resurrection City" was built during this campaign.

ANSWER: Poor People's Campaign

- 3. The McGill Questionnaire, FLACC scale, and the Wong-Baker face scale all attempt to quantify this sensation. For 10 points each:
- [10] Name this uncomfortable or distressing sensation caused by intense or damaging stimuli. This sensation can be classified as nociceptive, neuropathic, or psychogenic.

ANSWER: pain

[10] This disease is characterized by chronic muscle pain, fatigue, and sleep disturbance, and the ACR 1990 criteria were formerly used to diagnose individuals with this disease. It's not chronic fatigue syndrome, but there is no scientific consensus for the cause of this disease.

ANSWER: fibromyalgia

[10] This widely-used class of analgesics is often used to alleviate mild to moderate pain in patients, since it is non-addictive. They work by inhibiting cyclooxygenase and increase the likelihood of peptic ulcer disease.

ANSWER: NSAIDs (accept non-steroidal anti-inflammatory drugs, anti-prompt [ask for less specific] on

"aspirin," "acetylsalicylic acid," "ibuprofen," or "naproxen" but not "acetaminophen")

- 4. This landform is depicted in works like South Wind, Clear Sky and Cushion Pine at Aoyama. For 10 points each:
- [10] Name this geographical feature. Hokusai's *Thirty-Six Views of* this mountain include *The Great Wave off Kanagawa*.

ANSWER: Mount Fuji (accept Fuji-san)

[10] This other Japanese artist also created two series entitled *Thirty-six Views of Mount Fuji*. His other series of woodcuts include *The Fifty-three Stations of the Tōkaidō*.

ANSWER: Utawaga Hiroshige (accept names in either order)

[10] Both Hokusai and Hiroshige created works in this Japanese artistic style. Its name translates as "pictures of the floating world."

ANSWER: ukiyo-e

- 5. Readers differ on whether the *SCUM Manifesto* is a satirical example of a work in this school. For 10 points each::
- [10] Name this school of thought that was discussed by Simone de Beauvoir in *The Second Sex*. Its first-wave form was mainly concerned with civil rights like suffrage.

ANSWER: feminism (accept word forms)

[10] This work launched second-wave feminism in the US. It was written by Betty Friedan after interviewing her former classmates and finding them unhappy as housewives.

ANSWER: The **Feminine Mystique**

[10] This later work of third-wave and post-structural feminism is probably the best known book by Judith Butler. It proposed the idea of gender performativity.

ANSWER: Gender Trouble

- 6. The epic *The Hasty-Pudding* extols the people of this country. For 10 points each:
- [10] Name this modern day country where an early poetess became known as "the Tenth Muse, lately Sprung up in [this country]."

ANSWER: United States of **America** (or **USA**, or the **States**, etc.; the poetess is Anne Bradstreet)

[10] Another colonial poet was this woman and former slave who invoked a "celestial choir" and "Columbia's scenes of glorious toil" in her poem "To His Excellency General Washington."

ANSWER: Phillis Wheatley

[10] Though best known as the "Poet of the American Revolution," Philip Freneau also wrote naturalist poems like this one about a "fair flower, that dost so comely grow."

ANSWER: "The Wild Honeysuckle"

- 7. The first synthetic example of these macromolecules was synthesized in 1907 and was called bakelite. For 10 points each:
- [10] Name these large molecules that consist of long repeated chains of smaller molecules. They can be synthesized using the "step-growth" or "chain-growth" methods.

ANSWER: polymer

[10] The strength and rigidity of polymers like Kevlar and nylon come from these electrostatic interactions. This subset of dipole-dipole interactions is also responsible for the broad O-H absorption of alcohols and phenols in IR spectroscopy.

ANSWER: hydrogen bonds

[10] This group of catalysts is used in the polymerization of alpha-olefins like polyethylene and polypropylene.

Typical examples of these catalysts consist of organoaluminum compounds with titanium chloride.

ANSWER: Ziegler-Natta catalysts

- **8.** This angel guided Enoch to Heaven. For 10 points each:
- [10] Name this sometimes-fourth archangel who checked the doorways of households in Egypt for lamb's blood during the Passover. He wielded a flaming sword at the gates of Eden.

ANSWER: Uriel

[10] This Messenger of the Lord didn't need his horn to deliver the shocking news to Mary that she was pregnant with the son of God, Jesus.

ANSWER: Gabriel

[10] In Kabbalah, this highest ranking angel serves as the Scribe of God. This angel also has a namesake cube that is a variant on the Flower of Life.

ANSWER: Metatron

- 9. Karl kills his love Amalia at the end of this play. For 10 points each:
- [10] Name this play in which Franz tricks his father into disinheriting Karl, leading Karl to join the title outlaws.

ANSWER: The <u>Robbers</u> (or Die <u>Rauber</u>)

[10] The Robbers is a work of this German Sturm und Drang writer, who described the title bowman's refusal to bow before a cap and successful shooting of an apple in William Tell. He also wrote the "Ode to Joy" poem.

ANSWER: Friedrich Schiller

[10] Schiller wrote a fairly straightforward play about this historical figure. Other treatments of this figure include Jean Anouilh's ["on-WEE"] *The Lark* and a play by Brecht describing this character "in the Stockyards." ANSWER: St. <u>Joan</u> of Arc (prompt on "Maid of Orleans")

- **10.** One commander during this battle relied on the reinforcements of Joseph Tarchaneiotes, who for reasons unknown never showed up to the battlefield. For 10 points each:
- [10] Name this disastrous Byzantine defeat. The Varangian Guard was almost entirely wiped out at this battle by the forces of Alp Arslan.

ANSWER: Battle of Manzikert

[10] Manzikert represented a decisive victory for the Seljuk branch of these peoples, who settled the Anatolian peninsula after migrating from Central Asia.

ANSWER: Turks (accept word forms)

[10] This Byzantine emperor was captured during the Battle of Manzikert. He was ransomed and returned home only to find that he had been deposed by the Doukas family, after which he was blinded and sent to a monastery.

ANSWER: Romanos IV Diogenes (prompt on just "Romanos")

- 11. Answer some questions about chairs that are way cooler than the ones you're sitting in right now, for 10 points each:
- [10] This architect's futuristic Tulip Chairs were used on the set of *Star Trek*. This man also designed the TWA Terminal and the Gateway Arch in St. Louis.

ANSWER: Eero Saarinen (just need last name, but make sure not to accept or prompt on "Eliel Saarinen," his father)

[10] Ludwig Mies van der Rohe designed a chair named for this European city, where he constructed the German pavilion for its 1929 International Exposition.

ANSWER: Barcelona, Spain

[10] Charles and Ray, brothers with this surname, created a "lounge chair" constructed of plywood and black leather upholstery. An icon of mid-20th century design, this chair is available from Herman Miller for the low, low price of \$4859.

ANSWER: **Eames** lounge chair

- 12. Name these things related to ancient writing systems, for 10 points each:
- [10] Along with Demotic and Greek, hieroglyphs appear on this item crucial to the translation of ancient Egyptian. It was discovered by a Napoleonic soldier in 1799.

ANSWER: Rosetta Stone

[10] Cuneiform was the primary writing system of this empire that co-existed with Elam and reached its greatest height under Sargon the Great.

ANSWER: Akkad (or Akkadian Empire)

[10] The discovery of a 2015 tomb in Pylos revealed several tablets using this writing system. Major discoveries of artifacts using this script occurred at Pylos and Knossos, and it descended from a similarly named script that was used by the Minoans.

ANSWER: Linear B (do not accept or prompt on "Linear A")

- 13. In a recurring joke throughout this film, a main character's face is obscured by random objects. For 10 points each:
- [10] Name this film centering on Sully and Mike, two employees of the title company. At the end of this movie, Sully and Mike discover that laughter is better at generating power than fear.

ANSWER: Monsters, Inc.

[10] The early-to-mid 1900s included several "Universal Monsters" films, often starring this Hungarian who gained prominence for his performance as Dracula. Despite dying before the film was made, this actor appeared in Ed Wood's *Plan 9 From Outer Space*.

ANSWER: Bela Lugosi

[10] This legendary special effects guru sculpted countless monsters, like a Roc in *The 7th Voyage of Sinbad* and seven skeleton warriors in *Jason and the Argonauts*. A sushi restaurant in *Monsters, Inc.* is named for this man.

ANSWER: Ray Harryhausen (accept Harryhausen's)

- 14. The main characters in Nevil Shute's novel *On the Beach* all die in the wake of one of these disasters. For 10 points each:
- [10] Name this type of disaster which has occurred prior to the start of Ray Bradbury's story "There Will Come Soft Rains."

ANSWER: <u>nuclear</u> bombing (accept anything involving <u>nuclear</u> or <u>nukes</u>, like <u>nuclear</u> holocaust or <u>nuclear</u> attack or <u>nuclear</u> fallout; prompt on "radiation poisoning"; prompt on "World War III")

[10] The 2015 Nobel Prize in Literature was awarded to Svetlana Alexievich, a Belarusian journalist who wrote about *Voices from* [this event]. Alexievich interviewed more than 500 people in writing about this disaster stemming from a nuclear reactor in Ukraine.

ANSWER: Chernobyl disaster (accept anything mentioning Chernobyl)

[10] This author railed against his country's usage of nuclear power in an acceptance speech for the International Catalunna Prize. His most recent novel is *Colorless Tsukuru Tazaki and His Years of Pilgrimage*, while his first was *Hear the Wind Sing*.

ANSWER: Haruki Murakami

- 15. These objects have an event horizon and give off Hawking radiation. For 10 points each:
- [10] Name these massive astrophysical objects, which have central singularities and can be formed by the core-collapse supernova of a massive star. Their name is a consequence of their immense gravity.

ANSWER: black holes

[10] Non-rotating black holes that possess a nonzero value for this property are described via the Reissner-Nordstrom metric. According to the no-hair theorem, black holes possess only mass, angular momentum, and this fundamental property.

ANSWER: charge (accept Q)

[10] Due to frame-dragging effects, objects within this ellipsoid region outside the event-horizon of rotating black holes cannot be stationary with respect to the rest of the universe. Penrose proposed a process that could be used to extract energy from a black hole using this region.

ANSWER: ergosphere

- 16. Answer the following about strange demises for classical musicians, for 10 points each:
- [10] Jean-Baptiste Lully died after stabbing his foot performing this activity. Prominent practitioners of this activity include Herbert von Karajan ["kah-rah-yan"], who led the Berlin Philharmonic.

ANSWER: conducting (accept word forms; prompt on things like "keeping time")

[10] This English composer may have contracted a fatal illness after his wife locked him out of the house late at night. He wrote the opera *Dido and Aeneas* and the incidental music to *Abdelazar*.

ANSWER: Henry **Purcell** (technically [PUR-suhl], but be lenient)

[10] This Spanish composer of *Goyescas* drowned trying to save his wife after the *Sussex* was torpedoed by a German U-boat.

ANSWER: Enrique Granados (Campiña)

- 17. In computer science, attempts to generate numbers of this type usually use environmental factors like static or load times. For 10 points each:
- [10] Name this adjective describing systems with some lack of predictability. Stochastic processes have this property.

ANSWER: random

[10] This type of stochastic process is memoryless. They are usually simulated by multiplying transition matrices, and Monte Carlo algorithms using these stochastic processes can be used to sample from difficult probability distributions.

ANSWER: Markov chain

[10] Markov chain-Monte Carlo algorithms can be used to sample from the probability distribution over states of this model. This model represents ferromagnetism using discrete spins in a lattice, and in dimensions greater than 1, it observes a phase transition.

ANSWER: **Ising** model

- 18. Tell the time of day using British poetry, for 10 points each:
- [10] This author described a man "waking at four to soundless dark" in "Aubade." The speaker realizes "What will survive of us is love" upon seeing a memorial effigy in his "An Arundel Tomb."

ANSWER: Philip Larkin

[10] This poet wrote about hearing a "lover sing" in the lyrical "As I Walked Out One Evening." He wrote about the invasion of Poland in "September 1, 1939," and wrote the mournful "Funeral Blues."

ANWER: W(ystan) H(ugh) Auden

[10] This poet described "silent icicles" performing their "secret ministry" in "Frost at Midnight." His most famous work describes a sailor who shoots an albatross and is consequently punished with "water, water everywhere."

ANSWER: Samuel Taylor Coleridge (the poem is "The Rime of the Ancient Mariner")

- 19. A conflict in this country's capital was dramatized in a film by Gillo Pontecorvo. For 10 points each:
- [10] Name this country. Its independence led to widespread reprisals against loyalists called *harkis*, as well as a mass exodus of Europeans nicknamed "black feet."

ANSWER: People's Democratic Republic of Algeria (accept République algérienne démocratique et populaire)

[10] The turmoil caused by the Algerian War of Independence led this man to return to power in France. He had earlier led the Free French resistance against the Nazi-backed Vichy government.

ANSWER: Charles (André Joseph Marie) de Gaulle

[10] de Gaulle's return to power during the Algerian crisis was opposed by this man. Later, he would abolish capital punishment as the first Socialist President of France.

ANSWER: François (Maurice Adrien Marie) Mitterrand

- 20. This nation's endorheic Lake Balkhash has both saline and freshwater parts. For 10 points each:
- [10] Name this Central Asian nation with capital Astana. The Aral Sea is shared between this country and neighboring Uzbekistan.

ANSWER: Republic of **Kazakhstan**

[10] This largest city in Kazakhstan used to be the capital before being replaced by Astana. This city lost its bid for the 2022 Winter Olympics to Beijing.

ANSWER: Almaty (accept Alma-Ata or Verniy)

[10] Almaty lies at the foot of the Ile Alatau, a mountain range in this larger system of ranges that lie north of the Tarim Basin in Kazakhstan, Kyrgyzstan, and China's Xinjiang region.

ANSWER: Tian Shan

- 21. This region was ceded from one country to another after an initiative known as the Green March. For 10 points each:
- [10] Name this region. It is currently involved in a push for independence led by a group known as the Polisario Front.

ANSWER: Western Sahara (prompt on partial)

[10] Control of Western Sahara was transferred to Mauritania and this other country in the Madrid Accords. It was led for much of the second half of the 20th century by Hassan II, who ruled from its capital of Rabat.

ANSWER: Kingdom of **Morocco** (accept al-Mamlakah al-**Maghrib**iyah)

[10] The Sahrawi movement for independence is often referred to as an intifada, a term also used to describe two uprisings involving the Palestinian Liberation Organization. The PLO was led by this man from 1969 until his death in 2004.

ANSWER: Yasser Arafat