

ACF Fall 2013

Packet by Dartmouth A (Will Alston, Nick Jensen)

Edited by Stephen Liu, Tanay Kothari, Ankit Aggarwal, Adam Silverman, Stephen Eltinge, Lloyd Sy, John Lawrence, and Andrew Hart

1. A character in this novel is incapacitated when she sits on a hot stove in shock after an invasion by Sir Francis Drake. Another character in this novel dresses his concubine Petra Cotes as Queen of Madagascar, a reference to his wife, Fernanda del Carpio. While folding a sheet, Remedios the Beauty abruptly floats to heaven in this novel, whose opening chapters feature annual interactions between an excitable inventor and a band of gypsies led by Melquiades. This magical realist novel traces seven generations of the Buendía family in the fictional town of Macondo. For 10 points, name this novel by Gabriel García Márquez.

ANSWER: *One Hundred Years of Solitude*

2. Ethylene is oxidized to ethylene oxide using a catalyst of this element. Alexander Borodin helped discover that carboxylate salts of this element react with bromine to form alkyl bromides. In basic solutions, this element's cation is reduced by aldehydes, but not ketones. Chloride ions can be detected by the cream-colored precipitate formed when this element is added, usually in the form of its hand-staining nitrate. Halides of this metal are used in cloud seeding and photography. It has the greatest electrical conductivity of any element. With copper, it forms the alloys shibuichi, Britannia and sterling. For 10 points, name this element with symbol Ag.

ANSWER: silver [Accept Ag before mention.]

3. A theorem named for this type of mapping says that non-constant analytic functions map sets of this type to other sets of this type. All the elements of a topology possess this property with respect to the topology. For a compact set, every cover of this type has a finite subcover. The interior of any set has this property, and every point in a set with this property is an interior point, meaning that it has a neighborhood contained within the set. A set of this type does not contain its boundary points, and intervals of this type on the real line are denoted with round parentheses. For 10 points, name this property, possessed by sets whose complements are closed.

ANSWER: open

4. On the left side of this work, a man puts his hands on the shoulders of a man who wears blue and wears a garland on his head. In this painting, a bearded man and a man in a turban look down at a bald man scribbling in a book while standing next to a blonde woman, who gazes at the viewer and may represent La Fornarina. Two men on its right hold up a starry sphere and a globe, while nearby a man draws on a small chalkboard with a compass. The central scene of this painting shows a man pointing upwards while holding a copy of *Timaeus* and conversing with his student. For 10 points, name this Raphael work in which Plato and Aristotle walk among many other intellectuals.

ANSWER: *The School of Athens* [or *La Scuola di Atene*]

5. Comparing this quantity at market exchange rates exaggerates income ratios in the Penn effect. The central equation of the quantity theory of money sets this quantity equal to velocity times the money supply. This quantity, which does not include net factor payments in its calculation, is often adjusted for purchasing power parity. This quantity, which can be calculated through “production,” “expenditure,” and “income” approaches, is equal to consumption plus investment plus government spending plus net exports. For 10 points, name this quantity that represents the total market value of goods and services produced annually within an economy.

ANSWER: gross domestic product [Accept gross national product or GNP until “net factor payments” and do not accept or prompt thereafter.]

6. Comedian Frigide Barjot led 2013 protests against this politician's endorsement of Bill 2013-404. Recently, this politician instructed his ministers to take only a two-week summer hiatus, and then vacationed at a hunting lodge. The UMP, or National Front, opposes this politician. He is currently in a relationship with Valerie Trierweiler and his old domestic partner Segolene Royal lost a presidential primary in 2011. An expatriate actor was called "cheap" by this man's prime minister for attempting to avoid this man's 75% income tax. This politician ordered troops into Mali to fight Islamic insurgents. For 10 points, name this Socialist president of France.

ANSWER: Francois Hollande

7. This president opposed an amendment that would have made Jesus "ruler among the nations" out of respect for Jews, whom he had earlier targeted with General Order No.11. This man's presidency, which saw the Virginius Affair, also saw Oakes Ames fraudulently offer stock in a company contracted to build the Transcontinental Railroad. Fisk and Gould tried to corner the gold market on Black Friday during the presidency of this man, whose re-election bid over Horace Greeley was successful despite the Credit Mobilier scandal. For 10 points, name this president and Civil War hero who nicknamed "Unconditional Surrender" who was elected president in 1868.

ANSWER: Ulysses S. Grant

8. This ruler exempted women with three or more children from laws requiring them to have a guardian and prevented unmarried men and women from receiving inheritances. This emperor spoke of his own daughter, whom he exiled to Pandateria, as a "disease of my flesh." He successfully put down the rebellion of Sextus Pompeius and reportedly cried out "Quintilius Varus, give me back my legions!" after the Roman defeat at Teutoburg Forest. This father of Julia the Elder was part of the Second Triumvirate with Marc Antony, whose forces were defeated by this man's admiral Agrippa at Actium. For 10 points, name this first Roman emperor and adopted son of Julius Caesar.

ANSWER: Augustus [or Octavianus]

9. One of this author's poems urges listeners to "Rise like lions after slumber / in unvanquishable number," as "Ye are many--they are few." Another poem by this man states, "The breath whose might I have invoked in song / Descends on me" and asks "where was Iorn Urania" when the title figure died. That work by this author of *The Masque of Anarchy* states that a certain soul "Beacons from the abode where the Eternal are" and repeatedly asks the reader to weep for Adonais. Another of this poet's speakers recalls a sculpture of a king whose pedestal reads "Look on my works ye mighty, and despair!" For 10 points, name this Romantic poet of "Ozymandias."

ANSWER: Percy Bysshe Shelley

10. In a myth from this country, several sharks are tricked into lining up so that a hare may hop across them to reach an island. A dragon from this country eats one of a couple's daughters every year until a hero slays it after getting it to drink liquor from vats in several gates, after which he pulls a legendary sword from its body. This country's sun goddess hid in a cave after her brother threw a flayed horse into her room, forcing another to dance naked in order to make her laugh. According to legend, this country's emperor is descended from Jimmu, himself the descendant of Amaterasu. For 10 points, name this country believed to be populated by *kami*, the spirits of the Shinto religion.

ANSWER: Japan [Accept Nippon or Nihon.]

11. In one work, this thinker wrote a lengthy section in praise of commerce, which he believed produces peace and good manners. This philosopher asserted that people living in warm and cold countries were too hot-tempered or icy, respectively, concluding that the climate of middle Europe was ideal, and showed why man should not live by his desires in the Fable of the Troglodytes. This thinker grouped governments into monarchies, despotisms, and republics, in a work that popularized the idea of the separation of powers through branched government. For 10 points, name this French Enlightenment author of *Persian Letters* and *The Spirit of the Laws*.

ANSWER: Charles-Louis de Secondat, Baron (de La Brede et) de Montesquieu

12. In the fourth act of this opera, one character sings “L'abborrita rivale a me sfuggia” as she calls for guards to bring a lover to her. After being condemned to death, one character in this opera sings “Ahime, morir mi sento” as another curses the clergymen who have sentenced him. After a celebration of a victory over an invading army, a captured king in this work agrees to be held hostage with his daughter, who is tricked into confessing her love for the victorious general by Amneris. This opera ends after the titular woman crawls into a vault in order to die alongside her lover, Radames. For 10 points, name this opera about an Ethiopian princess by Giuseppe Verdi.

ANSWER: Aida

13. In one novel by this author, Franz and Martha begin an affair and decide to kill her husband, but Martha dies of pneumonia. A poem appearing in one of this man’s works describes “the false azure of the windowpane” after the opening line, “I was the shadow of the waxwing slain.” That novel by this author of *King, Queen, Knave* centers on the editor Charles Kinbote, who describes the deposed king of Zembla while critiquing a 999-line poem by John Shade. This writer also created a young girl who runs away with Clare Quilty and is also involved with the literature professor Humbert Humbert, who calls her a “nymphet.” For 10 points, name this author of *Pale Fire* and *Lolita*.

ANSWER: Vladimir Vladimirovich Nabokov

14. The canonical variety of this quantity is equal to the partial derivative of the Lagrangian with respect to q-dot. Wave vectors exist in a space named for this quantity, which for a wave is equal to h-bar times the wave number. At relativistic speeds, energy equals this quantity times the speed of light, while classically, kinetic energy equals this quantity squared divided by two times mass. The uncertainty in this quantity times the uncertainty in position must be at least h-bar over two, according to the Heisenberg uncertainty principle. Unlike kinetic energy, this quantity is always conserved, even in inelastic collisions. For 10 points, name this quantity equal to mass times velocity.

ANSWER: linear momentum [do not accept “angular momentum” at any point]

15. Karlheinz Stockhausen composed one of these works that is meant to be played with each of the musicians in a helicopter. Mozart wrote nineteen of these, the last of which was nicknamed “Dissonance” for its unusually slow introduction. It’s not a symphony, but one of these works that uses the pentatonic scale was composed in Spillville, Iowa by Antonin Dvorak. The “Erdody” and “Sun” examples of these were written by a composer sometimes called the “father” of this musical type, Josef Haydn. For 10 points, name these works composed for a group of two violins, a viola, and a cello.

ANSWER: string quartets

16. The First Sphere of these figures includes “Thrones”, who supposedly appear as wheels covered in eyes. In Islam, the Kiraman Katibin, Munkar, and Nakir are examples of these figures. One of these figures asks Muhammad about submission and faith in a famous hadith. Balaam’s donkey refused to move after spotting one of these creatures. Lot offered his two daughters to a mob that wanted to rape two of these figures who were staying as guests. The highest ranks of them include seraphim and cherubim, and one appeared to Mary during the Annunciation. For 10 points, name these heavenly beings exemplified by Gabriel and Raphael.

ANSWER: angels [Accept malakim, as well as any types of angels like archangels, seraphim, or cherubim before mention.]

17. To build a case against one character in this novel, the narrator buys a suicide note from Lily Mae Littlepugh. One character in this novel devises the Great Twitch Theory, which exonerates people of responsibility for their actions. Its narrator’s mother is married to Theodore Murrell, but she had previously carried out an affair with a man who protected the Southern Belle Fuel Company. In this novel, Adam Stanton learns from Tiny Duffy that his sister loves the sworn rival of Judge Irwin, leading to the assassination of Jack Burden’s boss, Governor Willie Stark. For 10 points, name this novel inspired by the life of Huey Long and written by Robert Penn Warren.

ANSWER: All the King’s Men

18. The newspaper *Qanun* advocated legal reform during this country's 1906 Constitutional Revolution. A Cossack commander who became leader of this country after a 1921 coup sparked controversy by violating the sanctuary of the Fatima al-Masumeh Shrine. By nationalizing a predecessor to British Petroleum, one leader of this country prompted the CIA to overthrow him in Operation Ajax. In this country, the White Revolution was overseen by a leader who gained power after Mohammed Mossadegh. That leader was forced to flee in a revolution that also saw 52 Americans taken hostage for 444 days. For 10 points, name this country once run by Shahs and Ayatollahs.
ANSWER: Islamic Republic of **Iran** [Accept **Persia**]

19. A woman with this name was the daughter of John of Brienne and married Frederick II Hohenstaufen. Another woman with this name began a love affair with Roger Mortimer and joined him in rebellion against her husband, Edward II. Besides those women, respectively "of Jerusalem" and "of France," a more notable woman with this name was recognized as ruler after fighting a war of succession against Joanna la Beltraneja. That ruler's reign saw the expulsion of the Jews from Spain and her patronage of Christopher Columbus. For 10 points, give this name of a queen of Castile who merged her kingdom to that of Ferdinand of Aragon.
ANSWER: **Isabella** [Accept **Yolande** of Brienne, since Isabella of Jerusalem was also known as that.]

20. The rate of this process is increased when central chemoreceptors detect a decrease in the pH of the cerebrospinal fluid. The intercostal muscles help accomplish this process in humans. Arachnids accomplish this process through book-like organs composed of lamellae. Its extent is measured by the tidal volume. Defects in this process lead to acidosis due to buildup of carbonic acid in the blood. In insects, this process occurs through the spiracles of the tracheal system. Laplace's Law explains the importance of surfactants in accomplishing this process in the alveoli. For 10 points, name this process by which carbon dioxide is exhaled and oxygen inhaled in the lungs.
ANSWER: **gas exchange** [Accept **respiration** or **breathing**, as well as same-knowledge equivalents]

21. This country's Dana Biosphere Reserve is home to the Atata tribe. The village of Salt lies in the Balqa highlands of this country, whose northwestern portion contains the fertile Hauran plateau. Nabataean petroglyphs can be found at Wadi Rum in the south of this country. A large castle is found at Kerak in this country, whose Zaatari refugee camp provides shelter to people fleeing a northern neighbor's civil war. This country is home to the rock-cut city of Petra and the city of Aqaba, the namesake of a gulf on the Red Sea. For 10 points, name this "Hashemite Kingdom" that controls the East Bank of its namesake river from its capital at Amman.
ANSWER: Hashemite Kingdom of **Jordan** [or al-Mamlakah al-**Urduniyah** al-Hashimiyah]

X. One work by this author sees a woman trick her husband into thinking bluefish is poisonous and focuses on the Miller family. In another of this playwright's works, the widower Ephraim is mocked as a cuckold after his new wife Abbie is impregnated by his son Eben. Orin and Lavinia appear in this author's trilogy about the Mannon family, modeled after an Aeschylus trilogy. He also wrote a play about the morphine-addicted Mary and the alcoholic, James, Jamie, and Edmund, who make up the dysfunctional Tyrone family. For 10 points, name this American playwright of *Mourning Becomes Electra* and *Long Day's Journey Into Night*.
ANSWER: Eugene Gladstone **O'Neill**

X. The geometry of the surroundings of these objects can be described by Flamm's paraboloid. Kruskal-Szekeres coordinates are useful for doing calculations with them, and their surroundings exhibit extreme frame-dragging. These objects cause the most dramatic examples of spaghettification, and all solutions to the Einstein field equations for them can be characterized by mass, charge, and angular momentum according to the no-hair theorem. These objects have collapsed within their Schwarzschild radius, at which their escape velocity exceeds the speed of light. For 10 points, name these regions of spacetime, beyond whose event horizons not even light can escape.
ANSWER: **black holes**

X. The poet Octavian Goga led the anti-Semitic National Agrarian party in this country, and during the Legionnaires' Rebellion, Horia Sima rebelled against a leader of this country known as the "Red Dog." Several leaders in this country's history took the title Conducător, including one a man who was targeted by Operation Tidal Wave and faced rebellion by former supporters in the Iron Guard. Another leader of this country was opposed by a movement started in Timisoara and put forth the July Theses. That man was executed, along with his wife Elena, on December 25, 1989. For 10 points, name this Eastern European country ruled by Ion Antonescu and Nicolae Ceausescu.

ANSWER: **Romania** [or **Rumania**]

1. The Parisian merchant Etienne Marcel supposedly surrendered Paris during this event. For 10 points each:
[10] Name this 14th century rebellion of French peasants led by Guillaume Cale. It followed up on a disastrous defeat at the Battle of Poitiers and was put down by Charles the Bad of Navarre.

ANSWER: **Jacquerie**

[10] The Jacquerie and the Battle of Poitiers both took place during this rather long war between England and France, which saw other notable engagements at Agincourt and Crecy.

ANSWER: **Hundred Years'** War [or *Guerre de Cent Ans*]

[10] The war was sparked in part by Philip VI's confiscation of English holdings in this French region, which made Edward III his vassal. England gained this territory when a woman from here named Eleanor married Henry II.

ANSWER: **Aquitaine**

2. This architect's Tjibaou Cultural Centre is designed to reflect a traditional village of the Kanak people of New Caledonia. For 10 points each.

[10] Name this man behind additions to museums like the Art Institute of Chicago and Harvard's Fogg Museum. His best known work was a collaboration with Richard Rogers and has much of its internal piping exposed.

ANSWER: Renzo **Piano**

[10] Piano is best known for collaborating with Richard Rogers on the Pompidou Centre in this city. Other buildings in this city include Nouvel's Institut du Monde Arabe and the Eiffel Tower.

ANSWER: **Paris**, France

[10] Charles Garnier's Paris Opera House is crowned by an Aimé Millet sculpture depicting this Greek god between music and poetry. A figure being pursued by this god turns into a laurel tree in a Bernini sculpture.

ANSWER: **Apollo** [Accept **Phoebus**.]

3. Survivors of these events include Manu, as well as Pyrrha and Deucalion, who created a new human race by throwing rocks over their backs. For 10 points each:

[10] Name these natural disasters used by gods in many mythologies to cleanse the world of humans. Often, they are survived by building large boats.

ANSWER: great **floods** [Accept equivalents, like **deluges**.]

[10] In the hope of gaining immortality this man seeks out the flood survivor Utnapishtim. Earlier, he had journeyed with a friend to the Cedar Forest to defeat a monster named Humbaba.

ANSWER: **Gilgamesh**

[10] In various tales, this trickster god warns Atrahasis and Utnapishtim about Enlil's plan to flood the world. This water god was once punished for trespassing in the sacred garden of Innana.

ANSWER: **Ea** [or **Enki**]

4. Parts of this work were published posthumously as *American Hunger* and it is divided into the sections "Southern Night" and "The Horror and the Glory." For 10 points each:

[10] Name this autobiography in which the author sets his house on fire. It later describes his flight to Chicago and involvement in the Communist Party.

ANSWER: **Black Boy**

[10] The author of *Black Boy* wrote this novel in which Bigger Thomas unintentionally suffocates Mary Dalton and kills Bessie before being imprisoned and put to death.

ANSWER: **Native Son**

[10] This author of *Black Boy* and *Native Son* included the autobiographical piece “The Ethics of Living Jim Crow” in his collection *Uncle Tom’s Children*.

ANSWER: Richard **Wright**

5. These compositions usually begin with a Greek Kyrie, but consist mostly of Latin text. For 10 points each:

[10] Name these choral compositions, meant to be played during the namesake Catholic worship services. Examples of these compositions designed for funerals are known as requiems.

ANSWER: Latin **masses**

[10] One of the most famous masses is this one, composed by Giovanni Palestrina in honor of a man who only reigned for three weeks. It legendarily convinced the Council of Trent not to ban polyphonic music.

ANSWER: **Pope Marcellus Mass** [or *Missa Papae Marcelli*]

[10] Leos Janacek, a composer of this ethnicity, used Old Slavonic text in his 1926 *Glagolitic Mass*. Antonin Dvorak, the composer of *Slavonic Dances*, was also of this ethnicity.

ANSWER: **Czech**

6. One of the largest accumulations of this substance was first observed by Charles Moore in 1997 after a sailing race. For 10 points each:

[10] Identify this substance, found in large quantities in a namesake “patch” in the northern Pacific Ocean.

ANSWER: **garbage** [or **trash**; or **plastic**, since most of it is plastic]

[10] The Great Pacific Garbage Patch is held in place by the North Pacific one of these large rotating systems of ocean currents.

ANSWER: oceanic **gyre**

[10] The North Atlantic Gyre, in addition to having its own garbage patch, includes this warm current on its western side. This current starts in Florida and flows up the entirety of the east coast of the United States.

ANSWER: **Gulf Stream**

7. This practice has been criticized as a form of racial profiling, since over 50% of the people targeted by it are black, even though only a quarter of New York’s population is. For 10 points each:

[10] Name this practice in which NYPD officers randomly bother and search civilians. District Court Judge Shira Scheindlin declared it unconstitutional in August 2013.

ANSWER: New York City **stop-question-and-frisk** program

[10] This politician said his city would appeal Scheindlin’s ruling against the stop-and-frisk program. This current mayor of New York City and multi-billionaire instituted a ban on large sodas.

ANSWER: Michael Rubens **Bloomberg**

[10] This leading candidate to replace Bloomberg as mayor has criticized the stop-and-frisk program for targeting minorities, whom he plans to help with city contract quotas. This progressive featured his biracial son Dante in an ad.

ANSWER: Bill **de Blasio** [or Warren **Wilhelm**]

8. In *The Lucifer Effect*, the man who conducted this experiment noted similarities to Abu Ghraib. For 10 points each:

[10] Name this 1971 experiment in which students assigned as “guards” adapted to their roles more than expected and subjected fellow students to heavy psychological abuse. It took place at a west-coast university.

ANSWER: **Stanford prison** experiment [Prompt on **SPE**.]

[10] This author of *The Lucifer Effect* conducted the Stanford prison experiment.

ANSWER: Philip George **Zimbardo**

[10] Zimbardo devised an experiment involving abandoned cars to test a criminological theory of this name. It also identifies a parable told by Frederic Bastiat to illustrate why society does not benefit from the economic costs of repairing destroyed property.

ANSWER: **broken windows** [Prompt on **windows**.]

9. The rise of this state coincided with the decline of the Kushan and Shaka kingdoms. For 10 points each:

[10] Name this Indian empire of the 4th-6th century CE supposedly founded by Maharaja Sri. It received tribute from numerous southern states and created several iron pillars.

ANSWER: **Gupta** Empire

[10] The Gupta Empire faced invasion by the Hephthalites, also known as the “White” branch of these people. These people were led on various European adventures by a guy named Attila.

ANSWER: **Huns** [or **Hunas**]

[10] Chandragupta I of the Gupta Empire should not be confused with Chandragupta Maurya, who sent a bunch of elephants to help this Macedonian general win at the Battle of Ipsus against Antigonos.

ANSWER: **Seleucus** I Nicator

10. Genetic research often involves the creation of horrific, unnatural hybrids. For 10 points each.

[10] Genetic vectors can be created from these circular, extrachromosomal DNA molecules. These molecules can be transferred to other organisms by conjugation or transformation.

ANSWER: **plasmids**

[10] This reporter gene was isolated from jellyfish, in which it interacts with aequorin in the presence of calcium to create light. This protein can be expressed in anything from viruses to mice to make them glow in ultraviolet light.

ANSWER: **green fluorescent protein**

[10] In this process to study a gene’s function, homologous recombination of the gene with a mutant allele creates a gene that goes unexpressed. It is often coupled with loxP-*Cre* recombination so it only affects certain cells.

ANSWER: gene **knockout**

11. Because of the lanthanide contraction, this measure does not differ significantly between second- and third-row transition metals. For 10 points each:

[10] Name this quantity determined by the interplay between shielding and “Z-effective.” Isoelectronic anions have a larger value of this measure than neutral atoms, which in turn have a larger value than cations.

ANSWER: **atomic radius** [Accept **ionic radius**, **van der Waals radius**, or **covalent radius**. Prompt on partial.]

[10] In general, the atomic radius changes in this way across a row and/or down a column in the Periodic Table. An answer such as “increases across a row and increases down a column” is expected.

ANSWER: **decreases across a row** and **increases down a column** [Accept any equivalent statements, including **period** in place of “row” and **group** or **family** in place of “column.”]

[10] This other property displays exactly opposite periodic trends to atomic radii. This ability of an element to attract electrons is measured by the Pauling scale.

ANSWER: **electronegativity**

12. This action is performed in cycles called raka‘āt. For 10 points each:

[10] Name this action, which is referred to as *namaz* in Persian. It is sometimes performed with a sutrah and is done while facing the Qibla.

ANSWER: Islamic **prayer** [or **salat**]

[10] People who don't pray this many times per day are sinners according to non-Hanbali schools of thought, but disbelievers according to the Hanbali school. There are this many Pillars of Islam.

ANSWER: **five** [Accept **khamisa**.]

[10] Partial varieties of this action, which may be done with sand if necessary, must be performed before salat.

Another form of this action in Islam is *ghusl*.

ANSWER: ritual **ablution** [Accept **purification**. Prompt on "washing" or similar things.]

13. Name some languages used to write epic poetry, for 10 points each:

[10] This language was used to write the early Christian poem *Dream of the Rood*, but is better known for being the language used by the Pearl Poet.

ANSWER: **Old English** [Prompt on **English**. Do not accept or prompt on **Middle English** or other varieties.]

[10] This language was used to write an epic in which the knight Tancred falls in love with Clorinda, *Jerusalem Delivered*, as well as two poems by Ludovico Ariosto in which Orlando is "In Love" and "Enraged."

ANSWER: **Italian** [or **Italiano**]

[10] This non-European language was used to write the *Story of Heraclius*, a tale of conflict between the Byzantines and various Muslim powers. A writer who uses this language and Kikuyu wrote the essay, *Decolonizing the Mind*.

ANSWER: **Swahili** [or **Kiswahili**]

14. The Straits of Malacca separate this island from the Malay Peninsula. For 10 points each:

[10] Name this third Indonesian island behind Borneo and New Guinea, where the Srivijaya Empire had its capital at the city of Palembang.

ANSWER: **Sumatra**

[10] This special region of Indonesia forms the northeastern tip of Sumatra near the Nicobar Islands. It was devastated by the 2004 tsunami, which helped bring an end to its GAM independence movement.

ANSWER: **Aceh**

[10] Situated between Java and Sumatra is the island of Krakatoa, where this type of destructive event involving ash and lava occurred in 1883, causing thousands of deaths and pushing down global temperatures for over a year.

ANSWER: **volcanic eruption** [Accept any equivalents mentioning **volcanos**. Accept **phreatic eruption**.]

15. In the lower-left corner of this painting, Nicolas Poussin appears in black, pointing at the title figure. For 10 points each.

[10] Name this painting, whose title figure is crowned by the winged Universe as he sits on a pedestal in front of a Greek temple. Other figures in this painting include Dante, Shakespeare, Euripides and Socrates.

ANSWER: *The Apotheosis of Homer* [or *L'Apothéose d'Homère*]

[10] *The Apotheosis of Homer* was painted by this French Neoclassical artist of *The Valpinçon Bather*. He depicted exotic nude women in *The Turkish Bath* and *La Grande Odalisque*.

ANSWER: Jean-Auguste-Dominique **Ingres**

[10] Ingres painted the death of this other artist, whose works included the *Madonna of the Carnation* and *Madonna Litta*. He is better known for painting a woman with an enigmatic smile in *Mona Lisa*.

ANSWER: **Leonardo** di Ser Piero **da Vinci** [Accept either underlined portion.]

16. This character is always praised at the end of the Two Minutes Hate. For 10 points each:

[10] Name this character who is "always watching you" and is opposed by Emmanuel Goldstein. This enigmatic dictator is often used as a symbol for excessive or abusive government power.

ANSWER: **Big Brother**

[10] Big Brother appears in this novel about Winston Smith by George Orwell, which details the dystopian society of Oceania ruled by the Party. Winston falls in love with Julia and is later tortured by O'Brien.

ANSWER: Nineteen Eighty-Four

[10] George Orwell coined this term, similar to cognitive dissonance, in *Nineteen Eighty-Four*. It describes the simultaneous acceptance of two contradictory beliefs.

ANSWER: doublethink

17. In one work, this philosopher suggested the possibility of an evil demon who is responsible for deceiving his senses. For 10 points each:

[10] Name this author of *Meditations on First Philosophy* who stated, “cogito ergo sum,” or “I think, therefore I am” to prove his existence.

ANSWER: Rene Descartes [or Renatus Cartesius]

[10] Descartes was a major proponent of this philosophical position, which states that the mind and body are two separate entities.

ANSWER: mind-body dualism [Accept Cartesian dualism.]

[10] This 20th-century British philosopher condemned Cartesian dualism as the doctrine of “the ghost in the machine” in his *The Concept of Mind*.

ANSWER: Gilbert Ryle

18. The title character of one play by this author shoots an apple from his son’s head on Gessler’s orders. For 10 points each:

[10] Name this author who wrote about an Asturian prince who plots against his father in *Don Carlos*, and about the aforementioned Swiss folk hero in *William Tell*. He also wrote the lyrics to “Ode to Joy.”

ANSWER: (Johann Christoph) Friedrich von Schiller

[10] Friedrich Schiller is considered an exemplar of Weimar Classicism, a literary style that developed in this nation as a successor to *Sturm und Drang*.

ANSWER: Germany

[10] Karl and Franz Moor plot against one another, attempting to gain their father Maximilian’s inheritance, in this play by Schiller.

ANSWER: *The* Robbers [or *Die* Rauber]

19. *The New York Times* called an alleged conspiracy against this man a “gigantic hoax” in a 1934 article. For 10 points each:

[10] Name this American president who Smedley Butler claimed to have been the target of the Business Plot orchestrated by pro-fascists. John Nance Garner served as Vice President under him.

ANSWER: Franklin Delano Roosevelt [Accept FDR.]

[10] The business community soured on the 1933 law creating this agency, which was directed by Hugh Samuel Johnson and symbolized with a blue eagle. The “sick chicken” case, *Schechter v. US*, eliminated it.

ANSWER: National Recovery Administration

[10] The NRA was part of a series of programs known as the New Deal, passed by Roosevelt to alleviate this long national crisis brought about by a massive stock market crash.

ANSWER: the Great Depression

20. The loss of this quantity due to friction can be calculated using the Darcy-Weisbach equation. For 10 points each:

[10] Name this quantity, equal to a fluid’s energy per unit weight. It is often reported as the height of an equivalent static column of fluid, and it has components due to pressure, elevation, and velocity.

ANSWER: hydraulic head [or piezometric head]

[10] This important principle of fluid dynamics can be written in terms of head by dividing by the acceleration due to gravity. It states that faster-moving fluids exert less pressure than slower-moving ones.

ANSWER: **Bernoulli's** principle

[10] Bernoulli's principle only applies when this quantity is zero. This quantity is independent of applied stress in Newtonian fluids, and the ratio of its dynamic and kinetic forms equals the fluid's density.

ANSWER: **viscosity**

21. The document important in the creation of this system identified five "great evils" in society: squalor, ignorance, idleness, want, and disease. For 10 points each:

[10] Name this publicly funded healthcare system in Britain, which was created for England and Wales in a namesake 1946 Act.

ANSWER: **National Health Service**

[10] This document advocated for the NHS. It was named after an economist who chaired a committee that investigated the state of British social services.

ANSWER: **Beveridge** Report [or **Report of the Inter-Departmental Committee on Social Insurance and Allied Services**]

[10] This man opposed the expansion of the welfare state, but is more notable for opposing the Nazis as Prime Minister during the Battle of Britain and most of World War II.

ANSWER: Sir Winston Leonard Spencer-**Churchill**

X. In one essay from this collection, the author suggests that the people of his nation tend to hide their identity behind masks. For 10 points each:

[10] Name this essay collection, whose first work discusses the "pachuco" subculture. Its sections include "The Day of the Dead" and "The Sons of La Malinche."

ANSWER: *The **Labyrinth of Solitude*** [or *El **laberinto de soledad***]

[10] This Mexican Nobel Laureate and author of the poem "Sun Stone" wrote *The Labyrinth of Solitude*.

ANSWER: Octavio **Paz** Lozano

[10] Paz described the mythology of this nation in his philosophical work *The Monkey Grammarian*, inspired by the figure of Hanuman. *The White Tiger* and *Hullabaloo in the Guava Orchard* are more recent works from here.

ANSWER: **India**

X. This government-funded effort had the same goal as the J. Craig Venter-led Celera Corporation. For 10 points each:

[10] Name this biological effort, which in June 2000 published a rough draft of a sequence of more than 3 billion base pairs.

ANSWER: **Human Genome Project**

[10] Since chain-termination DNA sequencing can only process a few hundred base pairs per run, the Human Genome Project used this strategy of breaking the genome up and then reassembling it to recreate the full sequence.

ANSWER: **shotgun** method [or **shotgun** sequencing]

[10] This man headed the incipient Human Genome Project in the early 1990s, but he may be better known for proposing the structure of DNA in 1953 along with Francis Crick.

ANSWER: James **Watson**

X. Verdi's *A Masked Ball* is based on an opera about a ruler with this name. For 10 points each:

[10] Give this name, shared by a man who led the War of Liberation to oust Christian II and a ruler who defeated Tilly and Wallenstein at Breitenfeld before dying at Lutzen during the Thirty Years' War.

ANSWER: **Gustavus**

[10] A lot of kings named Gustav, including Gustavus Adolphus, came from the Vasa dynasty that ruled this country and Poland. Its other rulers include Charles XII, who lost the Great Northern War to Peter the Great.

ANSWER: Kingdom of **Sweden** [Accept Konungariket **Sverige** or **Svenska Riket**.]

[10] After an invasion of Livonia by this Russian ruler, Sweden formed a coalition with Poland and Lithuania to drive off the Russian incursion. Sweden was given modern-day Estonia from Livonia in the ensuing peace.

ANSWER: **Ivan IV** Vasilyevich [Accept **Ivan the Terrible** or **Ivan Grozny**.]