

ACF Fall 2017

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Packet by Berkeley A, WUSTL B, Boston College

Tossups

1. A number of military campaigns attempted to obtain this resource by seizing land belonging to the Wangara and Akan people. In one empire, this resource had to immediately be turned over to the imperial treasury, where it would be exchanged for a ground-up form of this substance. A sudden influx of this resource in Cairo in 1324 caused wild devaluation of this resource, driving up prices. The trans-Saharan trade between salt and this resource made the empires of Ghana and Mali wealthy. Modern-day Ghana used to be named this resource's coast when it was a colony. For 10 points, name this precious metal which made Mansa Musa one of the richest men in history.

ANSWER: gold

2. A novel set at one of these places opens by describing the annual arrival of an "assembly of station wagons." In another novel, the protagonist is fired from one of these places after he refers to two black people as "spooks." In *Look Homeward, Angel*, Eugene Gant leaves one of these places for home after he hears that his brother Ben has pneumonia. Tom Wolfe's novel *I Am Charlotte Simmons* is set at one of these institutions, which employ Coleman Silk in Philip Roth's *The Human Stain* and Jack Gladney in *White Noise*. One of these institutions is home to the Iowa Writers Workshop. For 10 points, name these institutions of higher learning that award English degrees.

ANSWER: colleges [or universities; or any of these specific universities: College-on-the-Hill or Athena College or University of North Carolina or UNC or Dupont University or University of Iowa]

3. Protein A residues assist in the purification of monoclonal antibodies in the immunoaffinity type of this procedure. The reduction in band-broadening in this technique correlates with eddy diffusion and mass transfer resistance, according to the Van Deemter equation. Carbamates and amines can be detected by the purple-staining compound ninhydrin in one form of this technique. The ratio of the analyte's migration distance to the solvent front's migration distance is this procedure's retention factor. This procedure usually features a non-polar mobile phase traveling over a polar stationary phase. For 10 points, name this mixture-partitioning technique whose "thin layer" type is commonly used to separate colored dyes.

ANSWER: chromatography [or specific varieties of chromatography, including thin layer chromatography, column chromatography, high-performance liquid chromatography, gas chromatography, size-exclusion chromatography and immunoaffinity chromatography]

4. A text titled "Tales of the Elders" from this country is framed around two of its heroes narrating its stories to a Christian visitor. In a story from this country, a spear thrown from the foot ends a three-day duel fought in a ford. A cycle of epic poems was allegedly written by one of its heroes, the son of a man who built a bridge of basalt pillars joining this country with its eastern neighbor. A hero from this country tied himself to a rock so he could die standing, which occurred shortly after he ate dog meat, and singlehandedly defeated the forces of Queen Medb ("mave") during the Cattle Raid of Cooley. For 10 points, name this country whose heroes include Ossian, Cuchulainn and Finn McCool.

ANSWER: Ireland [or Eire]

5. This man claims that he is not a politician because a *daimon*, or divine sign, has always come to him and stopped him from becoming one. In a speech, this man claims that only a small number of trainers improve horses to argue against the idea that the majority of people serve as good influences. This man asks to be sentenced to life in the Prytaneum (pur-TAY-neum) while defending himself against the accusations of Anytus and Meletus. This man compares himself to a gadfly that questions the Athenians while defending himself against charges of corrupting the youth. For 10 points, name this ancient Greek philosopher, the subject of the *Apology* written by his student, Plato.

ANSWER: Socrates

6. The lowest class in these people's society were slaves known as thralls. These people encountered indigenous people they called "skraelings" on their most far-flung expedition. Vessels built by these people utilized the clinker method. The personal bodyguard of the Byzantine emperor was made up of six thousand of these people called Varangians. Their sack of the abbey of Lindisfarne shocked contemporary observers. The remains of one of their settlements can be found at L'Anse Aux-Meadows on the northern tip of Newfoundland in Vinland, which was reached by Leif Erikson. These people settled Iceland and Greenland. For 10 points, name these Scandinavian seafarers.

ANSWER: **Vikings** [prompt on Scandinavians; prompt on Norsemen; anti-prompt on Varangians before mentioned]

7. This novel's epigraph, "Truth, bitter truth," is attributed to Georges Danton. A character in this novel wears all black on the anniversary of the death of her ancestor Boniface, and later buries her lover's head as Queen Margot had done years before. This novel's protagonist is taught Latin by Chelan, and rises in society with the help of Abbe Pirard. Valenod sentences this novel's protagonist to death after he shoots at Madame de Renal, destroying his chances of marrying Mathilde de la Mole. This novel's title refers to the contrasting sentiments of the French clergy and army. For 10 points, name this novel about the rise and eventual fall of Julien Sorel, written by Stendhal.

ANSWER: *The **Red and the Black*** [or *The **Scarlet and Black***; or *Le **Rouge et le Noir**: Chronique du XIX siècle*]

8. When this property is highly dependent on temperature, it can be calculated using the Steinhart-Hart equation. Extremely small values of this quantity can be measured by a Kelvin double bridge, which uses four-terminal sensing. The product of this quantity and capacitance gives a circuit's time constant. The square of the magnitude of the impedance is equal to the sum of the squares of reactance and this other quantity. For a wire, this property is proportional to path length over area. Ohm's law states that this quantity equals voltage drop over current. For 10 points, name this quantity, which represents the opposition to current flow in a circuit and is measured in ohms.

ANSWER: electrical **resistance** [prompt on R]

9. This composer used a B-flat octave ostinato to imitate a tolling bell in a movement depicting a hanged man in a desert. That movement appears in a piece by this composer inspired by three poems by Aloysius Bertrand. This composer based the movements of another suite on different Baroque musical forms, and he dedicated each of them to friends who died in World War I. This composer of *Gaspard de la Nuit* (NWEE) and *Le Tombeau de Couperin* (coo-per-AN) composed the ballet *Daphnis et Chloé*. A work by this composer, commissioned by Ida Rubinstein, includes a repeating snare drum ostinato. For 10 points, name this French composer of *Bolero*.

ANSWER: Maurice **Ravel**

10. This phenomenon is efficient in directed search models but may be inefficient in random search. According to the Shapiro-Stiglitz model, efforts to avoid shirking create a market inefficiency that leads to it. The Beveridge curve plots this phenomenon against the vacancy rate. This phenomenon is inversely related to GDP growth by Okun's Law and to inflation by the Phillips Curve. There are "structural" and "frictional" types of this phenomenon, whose U3 measure does not include discouraged workers. For 10 points, name this phenomenon whose rate in the U.S. has fallen from 10 percent during the Great Recession to 4.4 percent as of late 2017.

ANSWER: **unemployment**

11. In Cape Town, a member of this family called for a "ripple of hope" in his "Day of Affirmation" speech. Inspired by her elder sister's mental incapacitation caused by a disastrous lobotomy, a member of this family named Eunice founded the Special Olympics. After the assassination of Martin Luther King Jr., a member of this family gave an impromptu speech on a flatbed truck, mere months before his assassination at the Ambassador Hotel. A member of this family praised eight senators in his book *Profiles in Courage* and resolved the Cuban Missile Crisis. For 10 points, name this influential family whose members include Robert Francis and assassinated president John Fitzgerald.

ANSWER: **Kennedy** family [or Robert Francis **Kennedy**; or Rosemary **Kennedy**; or Eunice **Kennedy** Shriver; or John Fitzgerald **Kennedy**]

12. An essay by Edmund Wilson asks why people read stories that focus on these kinds of people. A so-called “plum pudding method” was used to write novels about a member of this profession called Albert Campion. In a series of novels, a member of this profession marries Harriet Vane and is assisted by his valet Mervyn Bunter. Margery Allingham and Dorothy Sayers both wrote novels about people with this profession, such as Lord Peter Wimsey. A character with this job dies in the story “The Final Problem” by falling down the Reichenbach Falls with his nemesis Professor Moriarty. For 10 points, name this profession of Arthur Conan Doyle’s character Sherlock Holmes.

ANSWER: **detectives** [or **inspectors**; or **investigators**]

13. In these locations, smaller species evolve to get larger and larger species become smaller, according to Foster’s rule. A certain theory posits that larger animals on these landforms, such as *Homo floresiensis*, will shrink in size over time. One of these landforms named Surtsey was intensively studied to examine primary succession since its formation in 1963. The extreme isolation of these places can cause species that arrive here display the founder effect and undergo adaptive radiation. The shapes of finch’s beaks in groups of these kinds of landforms were studied in detail by Charles Darwin. For 10 points, name these landmasses that are surrounded by water.

ANSWER: **islands** [or **isle**; prompt on **archipelagoes**; anti-prompt on **Galapagos islands**]

14. An essay by Lorraine O’Grady contrasts the “oppositional” and “confrontational” gazes of the figures in this painting. A smaller version of this painting appears next to a Japanese print in a portrait of Emile Zola by the same artist of this painting. A recreation of this painting depicts the maid violently pulling the cloth off of the central figure while a seated man looks on. That recreation is the “Modern” version of this painting by Paul Cezanne. The central figure of this painting was modelled by Victorine Meurent. A black cat at the foot of the bed in this painting glares at the viewer. For 10 points, name this painting which depicts the title reclining nude prostitute being brought flowers by a servant, painted by Edouard Manet.

ANSWER: **Olympia**

15. The 28th chapter of this book argues that wisdom cannot be exchanged for gold or jewels because it comes from the fear of God. The main character in this book shaves his head and tears his clothes, then says, “Naked I came out of my mother’s womb, and naked shall I return.” Its title character, who is from Uz, defends himself against allegations of wickedness leveled by his friends Zophar, Bildad, and Eliphaz. Though its title character’s wife urges him to curse God and die, he refuses to do so even after losing his seven sons and three daughters. For 10 points, name this Biblical book in which God tests the title man’s faith.

ANSWER: Book of **Job**

16. In an act of senseless violence, this man ordered the ship *Miri* to be set ablaze, burning three hundred Muslim pilgrims to death. The famed cartographer ibn Majid supposedly created a map for this explorer helping him navigate through monsoon winds. This explorer made contact with a ruler with the title of Zamorin, who later massacred men led by Pedro Cabral. *The Lusiads* are based on this explorer’s journeys, which took him to Calicut in 1497. This man’s route took him around the Cape of Good Hope, which was first done by Bartholomew Diaz ten years ago. For 10 points, name this Portuguese explorer who first reached India by sea.

ANSWER: Vasco **da Gama**

17. This state is home to the headquarters of many of the twenty largest military contractors in the US, such as General Dynamics and Leidos. This year, ads from this state’s Republican candidate for governor have linked his opponent with the gang MS-13. Along with New Jersey, this state is one of two that will elect their state legislature and governor in 2017. Ed Gillespie and Ralph Northam are the two major-party candidates for governor in this state, where President Trump condemned violence “on many sides” after the murder of Heather Heyer. For 10 points, name this state where violence erupted at August 2017 white nationalist protests in Charlottesville.

ANSWER: **Virginia**

18. In a Jules Massenet opera set in this country, the main character serenades his lover by singing “Quand apparaissent les étoiles.” Act 1 of an opera set in this country contains a cavatina that coloratura sopranos often transpose from E major up to F major. In that opera set in this country, the female lead pines after a man disguised as Lindoro in the aria “Una voce poco fa.” In another opera set in this country, the title character sings a “Habanera” aria as Don Jose and the toreador Escamillo vie for her hand. For 10 points, name this country, the setting of Bizet’s opera *Carmen*, Rossini’s *The Barber of Seville*, and Massenet’s *Don Quichotte* (key-HO-tay).

ANSWER: **Spain** [or **España**]

19. A function named for this letter is obtained by taking the limit of the normal distribution as the variance approaches zero. A function named for this letter is equal to zero if two variables are equivalent and one if the variables are different. This letter names another function which contains an infinitely tall spike at x equals zero, but is equal to zero everywhere else. Both Kronecker and Dirac name functions called by this letter. Limits are defined by intervals named for epsilon and this letter. The lowercase version of this Greek letter is added before a variable to represent an infinitesimal amount. For 10 points, name this Greek letter which represents the change of the value of a variable.

ANSWER: **delta** [or **delta** function; or Kronecker **delta** (function); or Dirac **delta** (function)]

20. In an allusion to the Book of Isaiah, this author described a “cup of trembling” that glowed and shook as the title character plays the piano at the end of a short story. An unfinished memoir by this author inspired a 2016 documentary by Raoul Peck. An essay by this author recounts his meeting with Elijah Muhammad, and analyzes the growing appeal of the Nation of Islam. The documentary *I Am Not Your Negro* focuses on this author of “Sonny’s Blues,” who wrote a book containing the essays “Down at the Cross” and “My Dungeon Shook,” as well as a novel set on the fourteenth birthday of John Grimes. For 10 points, name this African-American author of *The Fire Next Time* and the novel *Go Tell It on the Mountain*.

ANSWER: James **Baldwin**

Tiebreaker. The narrator of a poem by this author calls himself a “gray spirit yearning” to follow knowledge “like a sinking star / Beyond the utmost bound of human thought.” In that poem by this author, the title character resolves to go on a journey, observing “‘Tis not too late to seek a newer world.” In a poem about death, this author wrote “I hope to see my Pilot face to face” when he crosses the Bar. The title king of a poem by this author resolves “to strive, to seek, to find, and not to yield.” Another poem by this author memorializes the “six hundred” who rode into the “Valley of Death.” For 10 points, name this British poet of “Ulysses” and “The Charge of the Light Brigade.”

ANSWER: Alfred, Lord **Tennyson**

Bonuses

1. Instead of prepositions like “in” or “on,” this language uses words translating to “loose-fitting” and “tight-fitting.” For 10 points each:

[10] Name this language. The writing system for this language was invented in 1443 and uses letters with similar shapes to represent sounds produced in the same place in the mouth.

ANSWER: **Korean** language [prompt on hangul; accept hanguk-eo or hanguk-mal or uri-mal or guk-eo]

[10] Korean is an example of this type of language which does not have any known genetic relationships to other languages or language families.

ANSWER: language **isolates**

[10] In the 1980s, a new language isolate of this type spontaneously developed at a school in Nicaragua. This type of language is primarily used to communicate with people who are hard of hearing or deaf.

ANSWER: **sign** languages [or **Nicaraguan Sign Language**]

2. An actor’s job is tough enough without the bizarre stage directions playwrights think up. For 10 points each:

[10] This author controversially called for a condom to fall from Alvaro’s pocket in his play *The Rose Tattoo*. Blanche DuBois leaves Belle Reve to go live with her sister Stella in his play *A Streetcar Named Desire*.

ANSWER: Tennessee **Williams**

[10] Characters are directed to “cross the Andes” in this author’s play *The Royal Hunt of the Sun*. He also wrote *Amadeus* and depicted the horse-obsessed Alan Strang in *Equus*.

ANSWER: Peter **Shaffer**

[10] The opening stage directions to this play call for a “long moment of English silence” before the clock strikes “17 English chimes.” The Smiths have the Martins over for dinner in this absurd play by Eugene Ionesco.

ANSWER: *The **Bald Soprano*** [or *The **Bald Prima Donna***; or *La **Cantatrice Chauve***]

3. This group of monstrous, flying old ladies relentlessly chase down their victims in order to punish them for their crimes. For 10 points each:

[10] Name these avengers of crimes against social norms like crimes against the elderly and crimes of inhospitality in Greek myth. This group’s name means “The Kindly Ones.”

ANSWER: the **Furies** [or the **Erinyes**; or the **Eumenides**]

[10] In a play by Aeschylus, the Furies pursue Orestes all the way to this structure, where he is then tried for his crimes. A tract by Milton on free speech is named for this rock cropping in Athens.

ANSWER: **Areopagus** [prompt on Acropolis]

[10] According to some sources, the Furies were born from the remnants of this event. This specific action also led to the birth of Aphrodite.

ANSWER: **castration** of **Uranus** [or equivalent answers which mention **castration** and **Uranus** or **Ouranos**; prompt on the **birth of Kronos** or similar answers]

4. The weakening of these systems can cause cold air from a jet stream to escape to lower latitudes. For 10 points each:

[10] Name these areas of low pressure, of which only two exist in Earth’s atmosphere.

ANSWER: **polar vortices** [or **polar vortex**; prompt on partial answer; *prompt on, but do not reveal, cyclones*]

[10] Like polar vortices, these storm systems have a low-pressure center, but unlike polar vortices, they generally form very close to the equator. Their intensity is ranked by the Saffir-Simpson scale.

ANSWER: **hurricanes** [or tropical **cyclones**]

[10] This fictitious force causes laterally moving objects in a rotating reference frame to appear to have a curved path. This force causes the North polar vortex and hurricanes in the Northern hemisphere to spin counterclockwise.

ANSWER: **Coriolis** force [or the **Coriolis** effect]

5. This organization attempted to assassinate John Major by bombarding 10 Downing Street with mortar shells. For 10 points each:

[10] Name this organization that fought British troops in Northern Ireland during the Troubles.

ANSWER: Provisional **Irish Republican Army** [or **IRA**]

[10] This member of the IRA was elected as a member of Parliament while he was in prison. He died in Maze Prison less than a month after his election as part of the 1981 Irish hunger strike.

ANSWER: Bobby **Sands**

[10] This prime minister of Britain through most of the 1980s refused to give in to demands of the hunger strikers. She was the target of an IRA bomb planted in the Grand Brighton Hotel.

ANSWER: Margaret **Thatcher**

6. In 1957, Gunther Schuller coined the name “Third Stream” to describe a new style blending jazz and classical music. For 10 points each:

[10] This jazz musician wrote many works arguably in the Third Stream tradition, including the album *Jazzical Ballads*. This bassist’s other albums include *Pithecanthropus Erectus* and an album called [his name] *Ah Um*.

ANSWER: Charles **Mingus**

[10] This musician may have influenced the development of Third Stream with songs like “Chelsea Bridge.” He composed a song that says “soon you will be on Sugar Hill in Harlem” called “Take the A Train.”

ANSWER: Billy **Strayhorn** [or William Thomas **Strayhorn**]

[10] Schuller’s idea of Third Stream music was partially inspired by this Hungarian composer’s integration of ethnic folk music with classical. He composed *Music for Strings, Percussion, and Celesta* and *Duke Bluebeard’s Castle*.

ANSWER: Béla Viktor János **Bartók**

7. 19th-century literary criticism could be rather brutal. For 10 points each:

[10] Not one to mince words, this author wrote an article about Longfellow called “Mr. Longfellow and Other Plagiarists.” He also wrote a story in which Prince Prospero’s ball is interrupted by a guest dressed as the Red Death.

ANSWER: Edgar Allen **Poe**

[10] This author published *Lady Byron Vindicated*, which accused Lord Byron of cheating on his wife with his half-sister. She became famous for writing *Uncle Tom’s Cabin*.

ANSWER: Harriet Beecher **Stowe**

[10] Mark Twain accused one of this author’s novels of committing “114 offenses against literary art out of a possible 115” in an essay attacking this writer’s “literary offenses.”

ANSWER: James Fenimore **Cooper** [or *Fenimore Cooper’s Literary Offenses*]

8. Hugues de Payens established this military order to protect Christians traveling to the Holy Land. For 10 points each:

[10] Name this military order known for the distinct red crosses displayed on their white robes. Their secrecy and influence led to their downfall in the early 1300s.

ANSWER: **Knights Templar** [or the **Templars**]

[10] This French monarch ordered the arrest of all members of the Knights Templar in his kingdom, resulting in mass executions by burning. The papacy moved to Avignon due to this king’s influence.

ANSWER: **Philip IV** [or **Philip** the **Fair**; prompt on **Philip**]

[10] This pope moved the seat of the papacy from Rome to Avignon. He eagerly suppressed the Knights Templar along with Philip IV, and died a month after the execution of the last Templar Grand Master, Jacques de Molay.

ANSWER: **Clement V** [prompt on **Clement**]

9. This structure, which was first elucidated by Linus Pauling, forms coiled-coiled structural motifs in proteins. For 10 points each:

[10] Name this spiral-shaped structure, which is one of the most common types of protein secondary structure. Each amino acid in this structure hydrogen bonds with a residue four amino acids away.

ANSWER: **alpha helix** [or **alpha helices**; prompt on **helix** or **helices**]

[10] Another type of helix is made of repeating residues of this amino acid. This amino acid is better known for causing kinks in alpha helices because its side chain cyclically bonds back to its amide nitrogen.

ANSWER: **proline** [prompt on **Pro** or **P**]

[10] A double helical structure, on the other hand, is most commonly exhibited by the B form of this nucleic acid, which stores genetic material.

ANSWER: **DNA** [or **deoxyribonucleic acid**]

10. This musical group's successor, the Belyayev Circle, included the composers Anatoly Lyadov and Nikolai Tcherepnin (chuh-RIP-nyeen). For 10 points each:

[10] Name this group of 19th-century composers based in St. Petersburg. This group, whose members included Mily Balakirev and Alexander Borodin, sought to create a distinctly Russian style of art music.

ANSWER: The **Five** [or the **Mighty Handful**; or **Могучая кучка** (*Moguchaya Kuchka*)]

[10] This member of both the Belyayev circle and The Five composed a symphonic piece based on *The Arabian Nights* called *Scheherazade* as well as *The Flight of the Bumblebee*.

ANSWER: Nikolai Andreyevich **Rimsky-Korsakov**

[10] Rimsky-Korsakov collaborated with this fellow member of the Belyayev Circle to complete Borodin's opera *Prince Igor*. This composer also completed Borodin's Third Symphony and wrote the ballet *Raymonda*.

ANSWER: Alexander Konstantinovich **Glazunov**

11. This system of thought is one of the five religions legally recognized by the People's Republic of China. For 10 points each:

[10] Name this Chinese religion and philosophical system, mythologically founded by the sage Lao Tzu. Its eponymous concept is sometimes translated as the "Way."

ANSWER: **Daoism** [or **Taoism**; accept **Tao** or **Dao**]

[10] This foundational text of Daoism discusses topics such as the "mysterious female" and the role of empty space in the function of a wheel, and is attributed to Lao Tzu.

ANSWER: **Dao De Jing** [or **Tao Te Ching**]

[10] Daoism contains many texts that describe the "internal" and "external" types of this practice, referred to as neidan and waidan. This practice commonly involves creating special elixirs.

ANSWER: **alchemy**

12. A "Church" of this figure, whose members describe themselves as "skeptical atheists," was founded by Anton LaVey. For 10 points each:

[10] Give this common name of the devil. According to Islam, a figure with this name is a fallen angel who refused to bow to Adam.

ANSWER: **Satan** [or **Shaitan**]

[10] This other name can refer either to the Devil or one of the demons in Hell. It is literally translated as "Lord of the Flies."

ANSWER: **Beelzebub**

[10] The origin of Beelzebub could be in 2 Kings, in which King Ahaziah consults the God Ba'al Zebûb and is then condemned by this prophet. This prophet is taken to heaven in a whirlwind after the appearance of a chariot of fire.

ANSWER: **Elijah**

13. This author tried to convince a girl that sleeping with him would be okay since their “two bloods mingled” in the title insect of his poem “The Flea.” For 10 points each:

[10] Name this English metaphysical poet who wrote that “no man is an island” and compared two lovers to the two needles of a compass in “A Valediction: Forbidding Mourning.”

ANSWER: John **Donne**

[10] Donne wrote this group of fourteen-line poems during his conversion from Catholicism to Anglicanism. They include “Batter my heart, three-personed God” and “Death be not proud.”

ANSWER: **Holy Sonnets** [or **Divine Meditations**; or **Divine Sonnets**]

[10] This Donne poem declares “Here upon earth we’re Kings, and none but we / Can be such Kings, nor of such subjects be.” Its first stanza claims that the speaker’s love does not decay, even though “all other things to their destruction draw.”

ANSWER: “The **Anniversary**” [or “The **Anniversaries**”]

14. Answer the following about using silver to back currency, for 10 points each:

[10] This Democratic Party nominee in the Election of 1896 strongly advocated bimetallism, and gave the ‘Cross of Gold’ speech attacking America’s gold-only standard.

ANSWER: William Jennings **Bryan**

[10] By the 1930s, this was the only country on the silver standard. This country was forced to pay indemnities to foreign powers in silver after losing conflicts such as the Opium Wars.

ANSWER: **China** [or Republic of **China**; or **ROC**; or **Qing** Dynasty; or **Zhonghua Minguo**; or **Zhongguo**; or **Qing Chao**; or **Da Qing Diguo**]

[10] Many coins used by China in the 18th and 19th centuries were minted by this country, whose pieces of eight coin became a *de facto* international standard after it minted massive amounts of them.

ANSWER: **Spain** [or **España**]

15. Answer the following about the Ostwald process, for 10 points each:

[10] The Ostwald process is an industrial reaction used to produce this compound, which is combined with hydrochloric acid in aqua regia.

ANSWER: **nitric acid** [or **HNO₃**]

[10] This compound is oxidised to nitric oxide in the first step of the Ostwald process. It is itself produced from nitrogen and hydrogen in the Haber process, and has formula NH₃.

ANSWER: **ammonia**

[10] The ammonia is typically oxidised using a catalyst of mostly platinum with 10% of this element. This element is also used with platinum in catalytic converters.

ANSWER: **rhodium** [or **Rh**]

16. This author’s stories inspired Schumann’s composition *Kreisleriana*. For 10 points each:

[10] Name this German Romantic author who wrote many supernatural short stories such as “The Golden Pot” and “The Nutcracker and the Mouse King.”

ANSWER: E.T.A. **Hoffmann** [or Ernst Theodor Amadeus **Hoffmann**; or Ernst Theodor Wilhelm **Hoffmann**]

[10] In this short story by Hoffmann, the protagonist Nathanael has a fear of eyes since Coppelius, the title character, threatened to put out Nathanael’s eyes when he was young.

ANSWER: “The **Sandman**” [or “Der **Sandmann**”]

[10] “The Sandman” opens with three of these documents. Epistolary novels consist of these documents, which also make up the beginning and end of Mary Shelley’s *Frankenstein*.

ANSWER: **letters**

17. This artist depicted a certain mountain in red in his print *Fine Wind, Clear Morning*. For 10 points each:

[10] Name this *ukiyo-e* (oo-key-oh-ay) artist, who used woodblock printing to create a series of *Thirty-Six Views of Mount Fuji*, which includes *The Great Wave off Kanagawa*.

ANSWER: Katsushika **Hokusai**

[10] Hokusai and Mount Fuji are from this Asian country, whose other artists include Ando Hiroshige.

ANSWER: **Japan** [or **Nippon**]

[10] A print by Hiroshige, later copied by Van Gogh, shows a “Sudden Shower” over one of these structures.

Gustave Caillebotte painted one of these structures named for Europe.

ANSWER: **bridge**

18. This man formed a namesake legion of cavalry that became part of his reforms. For 10 points each:

[10] Name this Polish nobleman whose death while leading a cavalry charge during the unsuccessful 1779 Siege of Savannah made him a martyr among Americans.

ANSWER: Casimir **Pulaski**

[10] The British were opposed at Savannah by an allied force of this country and the United States. Its king Louis XVI openly funneled men and massive sums of money to help the American cause.

ANSWER: **France**

[10] Description acceptable. French forces participating in the siege of Savannah included a regiment of people with this status. Thousands of people acquired this status by flocking to the British after Lord Dunmore’s Proclamation.

ANSWER: **free** men [or **former slaves**; or **emancipated slaves**; prompt on **black** people; do not accept or prompt on just “slaves” alone, though]

19. Answer some questions about the Caspian Sea, for 10 points each:

[10] The Caspian Sea is bordered to the northwest by this largest country in the world by area, whose city of Sochi hosted the 2014 Winter Olympics.

ANSWER: **Russia**

[10] This capital city, the largest on the Caspian, contains the Shirvanshah Palace in its Old City, as well as the Zaha Hadid-designed Heydar Aliyev Center. This center of the petroleum industry lies 28 feet below sea level.

ANSWER: **Baku**

[10] Sturgeon carrying this good were traditionally harvested from the Caspian Sea. Demand for this good has led to the beluga sturgeon becoming critically endangered.

ANSWER: **caviar** [prompt on **fish eggs** or **roe**]

20. In circuit diagrams, these components are represented with a break in the circuit with two parallel lines facing each other. For 10 points each:

[10] Name these devices which are used to store electric charge. A simple example of these devices is two conductive parallel plates separated by a dielectric.

ANSWER: **capacitors**

[10] Capacitance is quantified by this SI unit, which is defined as one coulomb per volt.

ANSWER: **farad**

[10] An example of a cylindrical capacitor is this type of cable, with concentric layers of two conductors with an insulator in between. Its capacitance per unit length is inversely related to the log of the ratio of its two inner radii.

ANSWER: **coaxial** cable