**ACF Nationals 2010**

**Packet by University of South Carolina A and CMU**

1. This man wrote about the subject's "former grandeur and present decadence" in his essay "The Rise and Fall of Nkrumah," and the bookstore clerk Haynes has an affair with his landlady Alice Rouse's daughter Maisie, residents of the title street in his novel *Minty Alley*. This man was instrumental in the selection of Frank Worrell to serve as the first black captain of the West Indies cricket team, and he coined the term "Not cricket" in his book on the subject, *Beyond a Boundary*. This man argued that the "the Cuban Revolution marks the ultimate stage of a Caribbean quest for national identity" in an appendix to another of his works entitled "From Toussaint L'Ouverture to Fidel Castro." For 10 points, name this man who discussed the relationship between the Haitian and French revolutions in his book *The Black Jacobins*.

ANSWER: [C]yril [L]ionel [R]obert **James**

2. A character in this play claims that he is descended from Demeter and Triptolemus just before being dragged out of the Pnyx, and some ambassadors deliberately misinterpret insults as promises of gold; those insults come from a character referred to as the “Great King’s Eye.” Three leather straps are “elected” as commissioners and the protagonist is offered three symbolic wineskins by Amphitheus. The informer Nicarchus is traded to a Theban, while two girls are disguised as pigs and sold after the protagonist opens a market. The protagonist avoids being stoned by the chorus by threatening a basket of coals with a knife and later dresses in the rags of Telephus which he borrows from Euripides. The end of this play mirrors the protagonist’s drunken revels with Lamachus’s war preparations. For 10 points, name this Aristophanes play in which Dikaiopolis signs a personal peace with the Spartans despite the wishes of the title people.

ANSWER: *The* ***Acharnians***

3. A novel version of this class of material was recently observed in a thin film of titanium nitride. The observed effect may be a particle-vortex dual of the BCS phenomenon, and was dubbed a "super-" this. Another variety exhibits the quantum spin Hall effect, when charges move only on the boundary of a material that is considered a "topological" one. A more well-known class of these materials has strong electron-electron interactions, and is named for Neville Mott. The most easily understood ones have a band gap, so that electrons cannot enter excited states. For 10 points, what is this class of materials that do not conduct electricity?

ANSWER: **insulators**

4. This speech quotes a line from Florus’s *Epitome* about “rather something more than a war." The speaker references Thor attempting to lift the Midgard Serpent in cat form in writing about “loathsome folds, now coiled about the whole land.” This speech makes references to a “tyrannical usurpation” and urges the president to protect those who cry “I am an American citizen” in vain. The speaker attacks James Murray Mason and David Atchison, and compares two senators to Don Quixote and Sancho Panza. That speaker later served as longtime chair of the Senate Foreign Relations Committee, where he helped resolve the Trent Affair. This speech attacks Andrew Butler and Stephen Douglas and accuses one man of taking as a mistress “the harlot, Slavery." For 10 points, name this 1856 speech which criticizes the Kansas-Nebraska Act, and led its author Charles Sumner to get caned.

ANSWER: “The **Crime Against Kansas**” [accept things like “Charles **Sumner**’s speech about **Kansas**” before read]

5. This poet compared TV antennas to “crucifixions without Christ” in “Girl Beatnik,” and he wrote that the title figure “like a seasoned lion / buys bread in the shop” and asks for it to be wrapped like a book in “Epistle to Neruda.” This man describes a woman who gives “herself entire to the rain” while berry picking in a poem which claims “as we get older we get honester” and relates the poet’s trip to his boyhood home. In another poem, he refers to a certain figure as “mute and dread” and claims he “still lurks in the mausoleum.” This author of “The Heirs of Stalin” and “Zima Junction” wrote that “we are denied the leaves, we are denied the sky” in a poem in which he compares himself to Dreyfus and to Anne Frank. For 10 points, name this Russian poet who wrote that “no monument stands over” the title ravine in a poem which inspired a Shostakovich symphony, “Babi Yar.”

ANSWER: Yevgeny **Yevtushenko**

6. His first symphony ends with a passacaglia and despite its odd title is actually composed of four movements. One of this man’s works, which was originally called *The Serpent Heart*, features a *Parodos* that introduces the characters and includes a notable “Dance of Vengeance.” Another of this man’s pieces opens with a flute solo before other themes, including one for brasses, begin; it is the second of two *Essays for Orchestra*. He was inspired by *Prometheus Unbound* in creating his *Music for a Scene from Shelley* and looked to Sheridan to compose the *Overture to the School for Scandal*. Another work by this composer of the *Capricorn Concerto* originated as the slow movement of a Quartet in B minor and was first performed by Toscanini in 1938. For 10 points, identify this composer of *Vanessa* and the *Adagio for Strings*.

ANSWER: Samuel **Barber**

7. In 2005, this man gave a short speech in which he said “Peter Newman: go fuck yourself” as Newman painted an unflattering picture of him in a biography. His time in power saw him sell 23 of his nation's 63 “crown corporations” and pay out 300 million dollars in reparations to Japanese interred during WWII. He replaced the Manufacturer's Tax with the Goods and Services Tax and passed an agreement that opponents like Ed Broadbent claimed would turn Canada into the 51st state, the Free Trade Agreement. He engaged in failed negotiations with Robert Bourassa over the Meech Lake Accord, which would have given a constitutional veto to Quebec, after he came to power by succeeding John Turner. For 10 points, name this Canadian prime minister who was followed by Kim Campbell after serving from 1984 to 1993.

ANSWER: Brian **Mulroney**

8. Its final chapter moves on from a discussion of the pendulum to claim that “the father of the arrow is thought” before discussing the “formation of the black arrow.” The penultimate chapter, the shortest, opens with a section on “Earth, Water and Air” and examines a stone falling, a balloon rising, and a meteor moving. The second chapter discusses “Dimension and Balance” as part of this book’s attempts to categorize as either kinetic-mobile or chromatic-caloric the forces that create optical sensation. It opens by introducing the transformation of the static dot into linear dynamics and was translated into English by Sibyl Moholy-Nagy [nawj], the wife of one of the author’s colleagues. Chock-full of numerous black and white diagrams and drawings it, upon its 1925 publication it became a student manual at the Bauhaus. For 10 points, name this teaching guide for art created by Paul Klee.

ANSWER: **Pedagogical Sketchbook** (or ***Pädagogisches Skizzenbuch***)

9. This writer, who experimented with open verse in “Comparatives,” also worked in more traditional forms, in such pieces as “Before an Old Painting of the Crucifixion,” and outlined his aesthetic theory in the essay “The Man Made of Words.” Another work by this man, which consists of twenty four pieces arranged into three divisions entitled “The Setting Out,” “The Going On,” and “The Closing In,” begins with the short poem “Headwaters” and tells of a journey to a titular summit. This author, whose time at Stanford with his teacher and friend, Yvor Winters, is recounted in the autobiographical *The Names*, juxtaposes a young woman’s Billy the Kid fantasies with traditional bear stories in *Ancient Child*, while “The Delight Song of Tsoai-talee” draw on the oral traditions of his Kiowa heritage. For 10 points, identify this author of *The Way to Rainy Mountain* and *House Made of Dawn*.

ANSWER: N. Scott **Momaday**

10. This dimensionless quantity is raised to the two-thirds power in one equation for the Chilton-Colburn j-factor, and in a case where this quantity is high, one relation concerning relative boundary layer thicknesses are given by the relation 0.975 times this quantity raised to the one-third power. The mass transfer variety of this dimensionless quantity is known as the Schmidt number, and replaces a factor in its formulation with the mass transfer coefficient D. The Rayleigh number is given as the product of this quantity and the Grashof factor, while the Peclet number is the product of this term and the Reynolds number. For 10 points, name this dimensionless quantity defined as the ratio of the kinematic viscosity of a fluid to its thermal diffusivity.

ANSWER: **Prandtl** number

11. A thought experiment presented by this philosopher examines two coffee tasters named Chase and Sanborn. He is asserted that "there are no skyhooks, only cranes" and that a certain concept is a “universal acid.” One work by this thinker contains chapters on Conway's “Game of Life” and argues that having independence from one's environment is the hallmark of free will. Another work by this man rejects the possibilities of a “Central Meaner” or of a “Cartesian Theater,” and proposes the Multiple Drafts Model of consciousness. This coiner of the term “intuition pump” notably rejects the possibility of zombies, and he applied Brentano’s theories to machines in developing his Intentional System. For 10 points, name this author of “Quining Qualia” and *Consciousness Explained*, who argued that life’s complexity is explained by natural selection in *Darwin’s Dangerous Idea*.

ANSWER: Daniel **Dennett**

12. One ruler of this name first gained distinction in the rebel army of Bardanes Turcus, and signed a thirty year peace with Omortag. A ruler of this name seized power after allying with Artavasdos and leading a revolt of the Anatolikon, while another rose to power after deserting his predecessor at the Battle of Versinikia. The former one released a Greek-language modification of Justinian’s law code known as the *Ecloga*. The latter was part of a trio of generals with Thomas the Slav and the man who later assassinated him, Michael the Stammerer. The most noted emperor of this name appointed the Patriarch Anastasius to oversee a policy that would be continued under his son Constantine V. For 10 points, give this name held by Byzantine emperors known as “the Khazar” and “the Armenian,” as well as by the founder of the Isaurian dynasty who started iconoclasm.

ANSWER: **Leo**

13. In this structure, DES exposure can disrupt Msx2-dependent apoptosis during development, and Gartner cysts are derived from its remnants. GDNF induces caudal budding in this structure, which develops as a solid cord of cells from the mesonephros and subsequently forms a tube. Bisphenol A promotes the retention of this structure in females. A hormone secreted by the Leydig cells promotes the differentiation of this structure, and, if AMH is not expressed, it begins to degenerate about ten weeks after conception. For 10 points, name this embryonic ductal system which develops into the epididymis, seminal vesicles, and vas deferens in the presence of testosterone while the Mullerian system degenerates.  
ANSWER:  **Wolffian** ducts (also accept **Wolffian** (ductal) system or **Wolffian** tubules)

14. Gerard Seghers was a minor member of this group, having learned its style from his teacher whose *Mars Chastising Cupid* was one of the earliest works by its members. Other minor members included Andries Both and Batistello, who was one of the few members who excelled at fresco painting and was the foremost of the Neapolitan ones. Major works by its noted Northern practitioners included *Doubting Thomas* and *The Matchmaker* and those by its foremost French member include *St. Joseph the Carpenter* and *The Penitent Magdalene*. Its only female member is known for *Judith Beheading Holofernes*. Characterized by a heavy use of tenebrism and including such members as Gerrit van Honthorst and Georges de La Tour, For 10 points, identify this group of painters named for their devotion to the style of the Italian painter of *The Calling of St. Matthew*.

ANSWER: the **Caravaggisti** or the **Caravaggists** (do not accept any other answers as they are specifically referred to only by these two terms)

15. This figure consoled a friend by calling him one of the Three Ungrasping Chieftains before inviting that friend to visit his domain. He became transfixed by an object attached to four endless chains hanging from the sky; the spell of that golden bowl was broken only after his companion captured the wife of Llwyd son of Cil Coed in the form of a mouse.  Some enchanted horses and dogs were used to cheat this figure out of some swine, after which he was killed in single combat by Gwydion. He was discovered on the night that a mare colted and was raised by Teyrnon Twryf Liant. This figure married Cigfa and traveled as a companion of Manawydan. He is the only figure to appear in all four branches of the Mabinogion, and six women tasked with watching him on the day of his birth fell asleep on the job and used puppy blood and bones to concoct a story that his mother ate him.  For 10 points, name this Welsh hero, the son of Pwyll and Rhiannon.

ANSWER: **Pryderi**

16. One of his early works was a case study of the war bond loan appeal made by Kate Smith. His theories of deviance are summed up in a chart that plots Cultural goals against Institutionalised means, with rebellion defined as new goals and new means. One of his better known theories was built upon by Robert Agnew and regards the relationship between social structures and crime. He discussed the process by which the developers of a process or idea are forgotten, obliteration by incorporation, and in his most famous work contrasts “middle range” theories with grand theories. He also discussed positive feedback loops based on expectations, which this thinker called the self-fulfilling prophecy. For 10 points name this sociologist who also coined the term “role mode,” developed Strain Theory, and wrote *Social Theory and Social Structure*.

ANSWER: Robert King **Merton**

17. This leader managed to free his polity from the Convention of Balta Liman, allowing him to establish a state monopoly on textiles. This ruler sent an expedition to expel Wahabis from the Hejaz, and was the beneficiary of the Convention of Kütahya and his son’s victory at the Battle of Nizip. He replaced the *iltizam* tax system and established a new army under Colonel Joseph Sève formed from conscription among the fellahin. French support of this man led to the so-called “Oriental Crisis” when he invaded Syria, and he sent his son Ibrahim Pasha to wage a campaign in the Morea, though it was cut short by defeat at Navarino Bay. This native Albanian led a massacre of the Mamelukes, and was named viceroy by Selim III after expelling Napoleon’s forces from the nation he would rule. For 10 points, name this man who achieved autonomy from the Ottomans while ruling Egypt from 1805 to 1848.

ANSWER: **Muhammad Ali** Pasha [or **Mehmet Ali** Pasha]

18. In astrology the planet Ketu is most often identified as being beneficial for it, and in another tradition pursuing it requires a mode of dialogue known as *Nirvikalpa Samadhi*. In yet another tradition it must be differentiated from *satcitananda* and is an understanding gained by *sadhaks*, or practitioners, who unravel the illusion of the world. It is referred to as the “farthest shore from darkness” in the *Chandogya Upanishad* reflecting the traversal of the four *margs* or paths, which include self-dissolving love and selfless work. It is synonymous with the stage of *Jivan mukti* and can imply the destruction of karma. For 10 points, name this concept that signifies release from *samsara*, the notion of being freed from the cycle of rebirth.

ANSWER: **moksha** (accept **mukti** before it is mentioned)

19. This man collaborated with Richard B. Blackman and Hendrik Bode on a project entitled “Data Smoothing and Prediction in Fire-Control Systems,” and one essay described an encoding process by which the length of English language texts could be reduced by 40%.  In addition to writing “The Redundancy of English,” this man designed devices like a roulette wheel to predict probabilistic outcomes of the stock market and used copper whiskers on a mechanical mouse, Theseus, which would remember paths through a maze he had completed.  A theorem he collaborated on states that for a characteristic probability density function f vanishing outside of an symmetric open interval, f is uniquely determined by values one-half pi times f of n pi over lambda.  For ten points, name this computer scientist who shares credit for a sampling theorem with Nyquist and who founded information theory.ANSWER: Claude **Shannon**

20. Allusions to classical imagery, including “the dewless asphodel of Elysisum” and “Polypheme’s white tooth,” abound in this work which is written mainly in the first person. At one point, the speaker asserts “I will not soil thy purple with my dust” and notes that “no poison” will be exhaled on “your Venice glass.” In one of them, the speaker recalls giving away locks of hair, while in another the speaker compares a suitor’s entreaties to a “cuckoo song.” With the line, “My future will not copy fair my past,” the last of them quotes from “Past and Future,” another of its creator’s works first published in 1844. The first one begins, “I thought once how Theocritus had sung,” and this collection’s title originated with its author’s “From Catarina to Camoens.” For 10 points, identify this sequence of poems that included the lines “How do I love thee? Let me count the ways,” a work by Elizabeth Barrett Browning.

ANSWER: ***Sonnets from the Portugese***

21 This nation celebrates Baron Bliss Day in honor of a man who donated his fortune to this country. Its Orange Walk district is home to large Mennonite populations, while its Stann Creek area is home to the town of Dangriga, which was founded by Garifuna refugees. The Hummingbird Highway connects its town of Punta Gorda to the capital. The prehistoric ruins of Altun Ha and Caracol are located in this country, which is the namesake of the world's second largest barrier reef. That reef sits off of the coast of this nation's largest island, Ambergris Caye, the site of the hit TV-show Temptation Island. For 10 points, name this nation once known as British Honduras which has its capital at Belmopan.

ANSWER: **Belize**

22. A character in this novel compares life to the wheel at Luna Park, dividing people into static and dynamic types, and also claims the purpose of architecture is to remove all humanity from a building. King’s Thursday is rebuilt as a modernist monstrosity by that man, Otto Silenus. Another character in this novel, identified as Arnold Bennett when seen in a Rolls Royce, claims to be a ship magnate who shot a Portuguese count, or a retired gentleman thief. The conman Sir Solomon Philbrick appears in this work, which sees the protagonist arrested for unknowingly trafficking prostitutes to South America on the day of his wedding to Margot Beste-Chetwynde. For 10 points, identify this novel about a man sent down for indecent behavior at Scone College, who then ends up at Llanabba Castle as a schoolmaster and is named Paul Pennyfeather, a work by Evelyn Waugh.

ANSWER: ***Decline and Fall***

23. The alternate recycling type of this technique has been applied to the study of gold nanocrystals. The methods of Whitaker and Andrews are used for determining molecular weight with this technique, which frequently involves the use of dextran blue as a void volume marker. Desalting apparati like G-twenty-fives, use the same matrix as this technique, and it is useful for studying ligand-binding because ligand-bound protein elutes earlier than unbound protein. This type of column chromatography tends to dilute samples because it does not involve adsorption or gradient elution, and it is often used to distinguish protein monomers from oligomeric complexes. For 10 points, name this type of chromatography in which porous sepharose beads are used to separate proteins by mass.

ANSWER: **size exclusion** chromatography or **molecular sieve** chromatography or **gel filtration** chromatography or **gel exclusion** chromatography or **gel permeation** chromatography or **SEC** or **MSC** or **GFC** or **GEC** or **GPC** or word forms of any of the above

**USC and CMU Bonuses**:

1. The fact that they cannot accept all languages is proven by the Pumping Lemma, and some of these make use of epsilon transitions.  For 10 points each:

[10] Identify these simple machines that come in deterministic and nondeterministic varieties.   
ANSWER: **finite state** automata [or **finite state** machines]

[10] This is the term for the set of all languages accepted by a finite state machine.  These constructs are often used for string matching and are particularly associated with Perl.   
ANSWER: **regular expression**s [or **regex** or **regexp**]

[10] Regular Expressions can be implemented using the same type of backtracking technique used to solve a problem of placing eight of these objects so they won't attack each other.

ANSWER: **queen** chesspieces

2. This painting features one of the namesake figures grasping another’s breast in the foreground, while an old man with wings at the top extends his arm to the left in the background.  For 10 points each,

[10] Name this circa 1545 painting depicting the four title figures.

ANSWER: ***Venus, Cupid, Folly and Time*** [or ***The Allegory of Love***]

[10] His patron Cosimo de’ Medici most sent his aforementioned *Venus, Cupid, Folly, and Time*, to Francis I of France as a gift.

ANSWER Agnolo **Bronzino** (or Agnolo di **Cosimo**)

[10] This woman, a poet of the time, faces to the left and wears a transparent veil while keeping her fingers open to a page of Petrarch’s sonnets in a Bronzino portrait.

ANSWER: Laura **Battiferri**

3. Calling itself an “expeditionary force,” it began with a group of veterans who rode boxcars from Portland, Oregon. For 10 points each:

[10] Name this group of protesters against the Hoover administration.

ANSWER: **Bonus** army [or **Bonus** expeditionary force]

[10] The Bonus army camped at this location southeast of Capitol Hill; troops under Douglas MacArthur dispersed them in a “battle” fought here in July 1932.

ANSWER: Battle of **Anacostia** Flats

[10] The Bonus army was encouraged to stay in Washington after the June 1932 failure of the Bonus bill by this Marine Corps general, who stormed the Haitian fortress of Riviere.

ANSWER: Smedley **Butler**

4. In this poem the speaker claims that “Nature ne’er deserts the wise and pure” as he imagines the experiences of some friends and decides “and I am glad as I myself were there!” For 10 points each:

[10] Name this poem addressed to Charles Lamb in which the poet laments that “well, they are gone, and here I must remain” in the titular place.

ANSWER: “**This Lime-Tree Bower my Prison**”

[10] This other poem by the author of “This Lime-Tree Bower my Prison” begins with an invocation of the *Ballad of Sir Patrick Spense*. The poet describes the title condition as “without a pang, void, dark, and drear.”

ANSWER: “**Dejection**: An Ode”

[10] “This Lime-Tree Bower My Prison” and “Dejection: An Ode” were written by this lake poet, who more famously wrote of a figure with a “glittering eye” who “stoppeth one of three” in “The Rime of the Ancient Mariner.”

ANSWER: Samuel Taylor **Coleridge**

5. This work opens with a dashing figure for violins and violas that emulates a saltarello, for 10 points each:

[10] Identify this 1844 work for orchestra, whose main melody is a song for English horn. It was originally planned as a prelude for its composer’s opera *Benvenuto Cellini*.

ANSWER: ***Roman Carnival*** *Overture* or ***Le Carnaval Romain***

[10] *The Roman Carnival Overture* was created by this man better known for his *Symphonie Fantastique*.

ANSWER: Hector **Berlioz**

[10] Berlioz’s *Damnation of Faust* contains a number of orchestral excerpts that are often performed separately, including this piece, which offers up a graceful melody for woodwind and brass, followed by a trio, and appears in a scene in which Mephisto calls upon the title figures to surround Marguerite’s house.

ANSWER: ***Minuet of the Will-o-the –Wisps*** or ***Dance of the Will-o-the –Wisps*** or ***Menuet des feux-follets***

6. This type of scattering is sometimes used as a monitor for luminosity. For 10 points each:

[10] This term named for an Indian physicist describes the scattering of a positron and electron including both s and t-channel contributions.

ANSWER: **Bhahba** scattering

[10] Bhahba scattering in the nonrelativistic limit is this classical interaction, named for a French physicist who lends his name to an inverse-square law of electrostatic interaction.

ANSWER: **Coulomb** attraction

[10] Bhahba scattering is related to Møller scattering of two electrons by this type of symmetry, which states that you can take a particle to the other side of an interaction net equation, provided it turns into its antiparticle.

ANSWER: **crossing** symmetry

7. On the eve of his execution, this man wrote the poem "Ultimo Adios." For 10 points each:

[10] Name this Philippine nationalist who wrote novels such as *Noli me Tangere* and *El Filibusterismo*.

ANSWER: Jose **Rizal**

[10] This other writer of such works as *Basi and Company* and *Sozaboy* was executed by the Abacha regime in 1995.

ANSWER: Ken Saro **Wiwa**

[10] After his attempt to rouse his fellow countrymen to rise up and reject western values failed, this author executed himself in Tokyo. Hours before committing seppuku he turned in the last pages of his *Sea of Fertility* tetralogy.

ANSWER: Yukio **Mishima**

8. This nation was finally enticed to emerge from its policy of “sacred egoism” in return for a promise of parts of Tyrol and Dalmatia, among others. For 10 points each:

[10] Name this nation that defected from the Triple Alliance in the secret 1915 Treaty of London.

ANSWER: **Italy**

[10] As part of the Treaty of London, Italy agreed to Yugoslavian sovereignty over this Croatian city, but after the war they changed their minds and claimed it. The poet Gabriele D’Annunzio led some forces in seizing the city.

ANSWER: **Fiume** [or **Rijeka**]

[10] The Italian premier sent a battleship to bombard D’Annunzio’s palace after that man refused to honor the terms of this treaty, which established the Free State of Fiume. Another important treaty of this name normalized Russo-German relations following World War I.

ANSWER: Treaty of **Rapallo**

9. He was nearly prosecuted by the Glasgow Presbytery for teaching that the standard of moral goodness is the promotion of the happiness of others, for 10 points each:

[10] Identify this man who formulated “the greatest happiness principle” in his 1725 work *Inquiry into the Origins of our Ideas of Beauty and Virtue*, but may be best known for arguing that man possesses an innate “moral sense.”

ANSWER: Frances **Hutcheson**

[10] Hutcheson’s conception of man’s “moral sense” was derived from this British philosopher who first used the term in his “Inquiry Concerning Virtue,” which was part of his 1711 magnum opus, *Characteristics of Men, Manners, Opinions and Times*.

ANSWER: the Third Earl, or Lord, of **Shaftesbury**, or [Anthony Ashley **Cooper**]

[10] Hutcheson’s work on virtue would later be addressed in this economist and philosopher’s 1759 work, *The Theory of Moral Sentiments*.

ANSWER: Adam **Smith**

10. Recently, a scandal rocked the scientific world when it was found that Lynn Margulis (MARG-oo-lis) promoted the publication of a scientifically dubious paper by Roger Williamson. For 10 points each:  
[10] Margulis is best-known for her role in developing this theory that explains the evolution of organelles from aerobic or photosynthetic bacteria that were engulfed by larger anaerobic bacteria.

ANSWER:  **endosymbiosis**  
[10] Williamson’s paper asserted that butterflies adopted their caterpillar larval form by hybrid reproduction with this ecdysozoan phylum. Though they are most closely related to arthropods and tardigrades, these carnivorous organisms also bear some resemblance to annelids.

ANSWER: **onychophora**ns or **velvet worm**s or **protracheata**  
[10] Subsequent disembowellings of Williamson’s work have focused on comparisons of this type of regulatory element. These elements regulate the expression of nearby genes on the same molecule of DNA; examples include transcription-factor binding sites, enhancers, and silencers.

ANSWER: **cis**-regulatory elements or **cis**-acting elements or **CRE**s or **CAE**s (accept equivalents like **cis**-regulatory modules, sequences, etc.)

11. Answer some questions about the colonization of Australia. For 10 points each:

[10] Initially called “Sting Ray Habor,” this huge bay near Sydney was the site of Captain Cook's first landing. Colonizers quickly moved to Port Jackson.

ANSWER: **Botany** Bay

[10] Botany Bay was recommended as a settlement site by this naturalist who sailed on Cook's first voyage. This founder of the African Association served as director of the Royal Botanic Gardens and dispatched the *HMS Bounty* in that position.

ANSWER: Joseph **Banks**

[10] This admiral sailed the *HMS Supply* into Botany Bay but would relocate to Sydney Cove. This first governor of New South Wales would then found the city of that name.

ANSWER: Arthur **Philip**

12. Although he is better known as a poet, this man's cantata *The Centennial Meditation of Columbia 1776 to 1876* was performed at the opening of the Centennial Exhibition in Philadelphia. For 10 points:

[10] Also a flutist in the Peabody Symphony Orchestra, name this Georgia-born writer who wrote *The Boy's King Arthur* and the novel *Tiger-Lillies*.

ANSWER: Sidney **Lanier**

[10] Sidney Lanier wrote this poem, in which the title river flows "Out of the hills of Habersham/Down the valleys of Hall."

ANSWER: *The* ***Song of the Chattahoochee***

[10] Lanier first gained fame with this poem in which a farmer gave “Cotton soul and soil/ Scourning the slow reward of patient grain." The poem, however, ends with a promise to the title commodity to “tend thee/And defend Thee."

ANSWER: **"Corn"**

13. Identify these research methods used in cognitive psychology FTPE:

[10] Used diagnostically to identify epilepsy, this method is the recording of electrical activities along the scalp as an index of neuron firing.

ANSWER: **EEG** also accept **electroencephalography**

[10] This phenomenon refers to any EEG-measured brain response that is the direct result of a thought of perception. Example signals include N400 and P600.

ANSWER: **Event Related Potentials** also accept **ERP**

[10] An increasingly popular technique that has been recently attacked in a paper by Vul et al, it measures the Blood Oxygen Level Dependent variable, an index of location-specific neuronal firing through use of a giant magnet.

ANSWER: **functional magnetic resonance imaging** also accept **fMRI** (prompt on MRI**)**

14. This empire developed out of a coalition of Yuezhi peoples and included rulers such as Kujula Kadphises and Kanishka I. For 10 points each:

[10] Name this ancient empire centered around the Amu Darya River that was conquered by Samudragupta of the Gupta Empire, before falling to the White Huns.

ANSWER: **Kushan**

[10] The Kushan empire was based primarily in this modern country. It became a formal state under Ahmad Shah Durrani and also had a king who was murdered by a teenager at a high school graduation ceremony, Nadir Shah.

ANSWER: **Afghanistan**

[10] Much of what is known about the Kushan Empire comes from inscriptions found in this holy city. Possibly the oldest city in India, this metropolis on the Ganges is considered by Hindus to have always existed and is sometimes called Benares.

ANSWER: **Varanasi** (or Kashi)

15. Name these engravers, for 10 points each:

[10] According to Vasari he made money creating belt-buckles but his fame rests on his *Judgment of Paris* engraving which, along with Giorgione’s *Concert Champetre*, inspired Manet’s *Luncheon on the Grass*.

ANSWER: Marcantonio **Raimondi**

[10] This man’s engravings include a set of scenes inspired by Butler’s *Hudibras*, as well as a satire on canvassing known as the *Election* series. He also painted a notable portrait of *Captain Coram*.

ANSWER: William **Hogarth**

[10] *This is bad*, *This is how it happened*, and *This is worse*, are three of the eighty-two engravings that make up his *Disasters of War* series.

ANSWER: Francisco **Goya** (or Fracisco Jose de **Goya** y Lucientes)

16. After retiring from the theater he translated *The Imitation of Christ* into his native tongue, for 10 points each:

[10] Identify this French dramatist whose 1634 work about Pridament’s search for his son Clindor was later adapted by Tony Kushner as *The Illusion*. He also wrote *Polyeucte*.

ANSWER: Pierre **Corneille**

[10] After being reprimanded by the Academie Francaise for disrespecting the classical unities, Corneille responded with this tragedy about a Roman champion who must fight his brother-in-law, Curiatus.

ANSWER: ***Horace***

[10] Based on a 1634 work by Alarcon, this Corneille comedy focuses on Dorante’s deceitful attempts to impress and woo Clarice.

ANSWER: ***The Liar*** or ***Le Menteur***

17. Name some figures from the mythology of Ugarit, for 10 points each.

[10] This storm god sometimes identified as Hadad overthrows his father El to become chief of the gods.  Astarte is a consort of this enemy of Mot, whose name means “master.”

ANSWER: **Ba’al**

[10] Early in his reign Ba’al is forced to defeat a challenge from this sea dragon, who makes some rebuffed advances on Astarte.  Kothar makes some weapons which Ba’al uses to strike this figure and leave him for dead.

ANSWER: **Yam**

[10] Yam doesn’t actually die, leaving it to this war goddess consort of Ba’al to finish him off.  After Mot makes Ba’al a prisoner in the underworld, she goes to get him back and gives Mot the business for good measure.

ANSWER: **Anat**

18. More recently, this technique of molecular dynamic modeling has been used to investigate the chemistry of surfaces of bimetallic catalysts. For 10 points each:

[10] Name this technique, which reduces the complexity class of molecular modeling by moving from E bracket psi to a new E bracket N system. The Thomas-Fermi approach is sometimes used to apply this technique to large systems.

ANSWER: **density functional theory** [accept **DFT**]

[10] This Austrian physicist helped develop density functional theory with a theorem named for him and Hohenberg and a set of equations named for him and Lu Jeu Sham.

ANSWER: Walter **Kohn**

[10] This system of describing molecular dynamics named for two Italians unifies density functional theory with molecular dynamics.

ANSWER: **Car-Parrinello** molecular dynamics method

19. Its prologue asserted the author’s intent to “protect our faith against cruel and brutish men” and its first section is divided into “Distinctions,” for 10 points each:

[10] Identify this work composed of four volumes including *The Mystery of the Trinity* and *The Sacraments* that was written between 1145 and 1151.

ANSWER: ***Sentences***

[10] This Italian theologian and author of more than 30 sermons wrote *Sentences*.

ANSWER: Peter **Lombard**

[10] A slew of theologians wrote notable commentaries on Lombard’s *Sentences*, including this 14th Century thinker and Professor at the Sorbonne whose extreme views on baptism led him to be known as both the “Doctor Authenticus,” and “Infantium Tortor” or “the tormentor of children.”

ANSWER: **Gregory** of Rimini

20. This segment of the Pacific Coast Range stretches from the Wrangell Mountains to Cross Sound at the Canada-Alaska border. For 10 points each:

[10] Name these mountains home to the world's most extensive ice fields outside of the polar ice caps. This range includes Mount Logan.

ANSWER: **Saint Elias** Mountains

[10] Much of the Saint Elias Mountains are located in this Canadian territory that was the home of Robert Service and has its capital at Whitehorse.

ANSWER: **Yukon** Territory

[10] The Yukon is bounded on the north by this sea which lies to the east of the Chukchi Sea and extends from Point Barrow to Banks Island of the Canadian Archipelago.

ANSWER: **Beaufort** Sea

These geologic formations sometimes have saddle deposits and include the Purcell grouping in Canada. For 10 points each:

[10] Name these structures which form convex arches of rock layer with the oldest rocks at their base. Antiforms are their counterpart for which layer age is unknown.

ANSWER: **anticlines**

[10] This classification scheme of anticlines describes them with a letter and number based on internal contour and angle of incidence with surrounding geoforms.

ANSWER: **Huddleston** scheme

[10] W. Jason Morgan described these other vertical geologic formations which occur just above their namesake layer. They are often cited as the cause of ocean plateau formations.

ANSWER: **mantle plumes**