

Early Fall Tournament 2016 - "Auntie Vivian's daughter can answer these questions, why can't you?"

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Packet 4

TOSSUPS

1. Esters containing large examples of these structures can be produced in a reaction named for Yamaguchi used in the synthesis of macrolides. Spiro compounds contain multiple examples of these structures linked at a single atom. These structures name a deshielding effect that shifts protons to the 7 to 8 ppm range. Double bonds, triple bonds, and these structures contribute degrees of (*) unsaturation. Torsional strain in these structures results in small ones being unfavorable, while five and six membered examples are particularly stable. Along with being planar and satisfying the $4n + 2$ rule, aromatic compounds must contain one of these structures. August Kekulé's dream allowed him to correctly propose the presence of one of these structures in benzene. For 10 points, name these structures found in molecules prefixed with "cyclo-."

ANSWER: rings [accept cycles before "cyclo-"] <Chem, AW>

2. A character with this profession gives a speech about how all material things are bound by a "chain of love" created by the Prime Mover. Saturn mediates between Mars and Venus to kill one of these people after he wins a fight against a former friend who had remained in prison while he was released early. A man with this job refuses a golden ring inlaid with red stone, but accepts a green silk girdle. After one of these people finishes telling his story, the Monk is (*) interrupted by the Miller. That person with this job describes a contest to win Emily between two of these men, Arcite and Palamon, in the first of Chaucer's Canterbury Tales. In a medieval poem, a green one of them challenges Sir Gawain. For 10 points, name these warriors who appeared in chivalric romances.

ANSWER: knights [or knights-errant] <BritLit, RY>

3. The answer to this tossup requires an artist's name and a painting genre. The authenticity of one of these works in Oslo was included in Jacob Baart De La Faille's catalogue of its artist's works, but is now widely considered a forgery. The artist of these works wrote to his brother, a Parisian art dealer, that he often modified features of these paintings after studying Japanese prints. Several of these works appear in the backgrounds of paintings by Emile Bernard. Another of these works was dedicated to the artist's roommate in the (*) Yellow House, Paul Gauguin. The last one of these works, painted as a present for its artist's mother, depicts the subject without a beard. Many of these paintings done at Saint Rémy were painted from the left to show the artist's single ear. For 10 points, name these portraits done by and depicting the artist of *Starry Night*.

ANSWER: self-portraits by Vincent van Gogh [prompt on partial answers] <Painting, PC>

4. William Scott Wilson titled a travelogue for a route that members of this class used for biannual travel called the Kiso Route. A member of this class was executed after his methods of torture prompted a rebellion led by a sixteen-year old, whose followers were killed if they didn't step on images of Christ. This class's dominance was opposed by smallholders and monks who organized into *ikki* leagues. Members of this class were forced to spend several months each year (*) living in the capital under the *sankin-kotai* system. Retainers who were no longer employed by members of this class were called *ronin*. The Three Unifiers were each men of this social class, who employed most of the *samurai*. For 10 points, name this class of landowning nobility in feudal Japan.

ANSWER: daimyo [prompt on less specific answers like Japanese people or nobility or warlords; do not accept or prompt on "samurai" at any point] <WorldHist, WA>

5. A narrative poem by this author begins when a husband and wife see their child's grave from the top of a staircase. In a poem by this author, the speaker "[p]asses by the watchman on his beat" and sees "One luminary clock against the sky" while taking a walk at the title time. The speaker of a poem by this author is interrupted when his (*) horse "gives his harness bells a shake." This author of "Home Burial" and "Acquainted with the Night" wrote a poem whose speaker has "promises to keep" and "miles to go before I sleep." The speaker of a poem by this author chooses a path that is "grassy" and "[w]ants wear" and says "that has made all the difference." For 10 points, name this poet of "Stopping by Woods on a Snowy Evening," and "The Road Not Taken."

ANSWER: Robert Frost <AmLit, JC>

6. He's not Grieg, but this composer's Opus 25 is a piano suite whose six movements are each in the form of a Baroque dance, such as a Präludium marked *Rasch*. He called for fifteen instruments in his one-movement, E major Chamber Symphony No. 1. He developed notation such as "P," "R," "I," and "RI" to describe how a sequence of notes can be written backwards and upside-down to produce a retrograde inversion. A solo soprano sings in a (*) half-speaking style called *Sprechstimme* [SHPREK-shtim-muh] in this composer's setting of twenty-one poems by Albert Giraud. He invented a method of composition based on a predetermined row of every note in the chromatic scale. For 10 points, name this composer of *Pierrot Lunaire* who developed the twelve-tone technique.

ANSWER: Arnold Schoenberg <Music, EK>

7. In the lead up to this battle, the winner was alerted to the enemy's movements while at a ball held by the Duchess of Richmond. The losing commander claimed that winning it would be as easy as eating breakfast. The victor in this battle used his famous "reverse slope defense." One group was prevented from fighting in it by the Battle of Wavre. This battle began with attacks on a chateau called (*) Hougomont [oo-goo-mon]. The absence of General Grouchy [groo-shee] deprived the losers of one third of their army. Le Haye Sainte was captured in this battle by an impetuous cavalry charge led by Marshal Ney, but his victory was cut short by the arrival of General Blucher and his Prussians. Its loser was exiled to St. Helena afterwards. For 10 points, name this battle where the Duke of Wellington dealt Napoleon his last defeat.

ANSWER: Battle of Waterloo <EuroHist, JZ>

8. When microwave radiation is shot at a diatomic molecule, the observed energy splitting is inversely proportional to this non-constant quantity, which appears in the denominator of the formula for a constant denoted *B*. This quantity is represented by a symmetric and positive-definite rank-2 tensor which is diagonalized in rigid body analysis to yield three (*) "principal values" of it. Deforming an object in the direction of a principal axis does not change this quantity according to the stretch rule. In general, this quantity is defined as the volume integral of $R^2 \sin^2 \theta$ times dM . When this quantity is known for one axis, it can be calculated for other axes by the aptly-named parallel axis theorem. Angular momentum equals this quantity times angular velocity. For 10 points, *I* is the symbol for what quantity, the rotational analogue of mass?

ANSWER: moment of inertia <Phys, BB>

9. This river provides an alternate name for the Mingo people led by Logan, who moved near it in the 18th century. A multiethnic village along this river named Logstown was built by a Virginia-based land company. The so-called "Kincaid set" of archaeological sites includes sites along this river such as Wickliffe and Angel Mounds. A group of Piscataway lends its name to a tributary of this river called the Kanawha [kuh-NAH-wuh]. The (*) Shawnee are native to the valley of this river, which is formed by the confluence of the Monongahela and Allegheny. By volume, this river is ahead of the Missouri as the largest tributary of the Mississippi. The border between Kentucky and Indiana is formed by -- for 10 points -- what river which shares its name with the Buckeye State?

ANSWER: Ohio River <Other, WA>

10. Constraints imposed by rationality on the “excess” of this value do not apply at the aggregate level, unlike at the micro level, according to a theorem named for Sonnenschein, Mantel, and Debreu. If a function for this value is linear, then in a monopolistic market, the marginal revenue function has a slope twice that of the function representing this quantity. Functions for this value can be derived by plotting quantities from bundles along the price-consumption curve against the (*) prices determining the budget constraints on those bundles. Functions for this value have positive slopes in the case of Giffen goods. The Slutsky equation relates changes in uncompensated and compensated varieties of this value, describing the substitution and income effects. For 10 points, identify this economic function paired with supply.

ANSWER: demand (function) [accept Marshallian demand or Hicksian demand] <SocSci, WA>

11. The likelihood of a species native to these ecosystems to go extinct is termed the “rescue effect,” while a similar tendency to lack fear of natural predators is known as these ecosystems’ “tameness.” A theory originally applied to these ecosystems led to the SLOSS debate over whether single large or several small reserves were superior. Foster’s Rule states that based on the resources of these ecosystems, organisms’ sizes in them (*) tend towards extremes. Adaptive radiation tends to occur in these ecosystems, which are insular. Robert MacArthur and E. O. Wilson developed a “biogeography” for these ecosystems, in which uniquely isolated species, such as species of finches, were studied by Darwin on the Galapagos. For 10 points, name these ecological regions of subcontinental land surrounded by water.

ANSWER: islands [accept archipelagos; prompt on fragmented ecosystems] <Bio, JC>

12. The protagonist of a novel titled for one of these places sees “suffering and torture” in a lesbian encounter involving his neighbor, the mistress of a U.S. colonel. In that novel titled for one of these places, the protagonist experiences a revelation in Benares while on vacation from work in Thailand. In a novel titled for one of these places, the protagonist learns anecdotes from *The Gateless Gate* from Father Dosen. A novel titled for one of these places follows (*) *Runaway Horses* in the *Sea of Fertility* tetralogy. In a novel titled for one of *them*, a character who repeats “If you meet the Buddha in the road, kill him” befriends the club-foot Kashiwagi; at the end of the novel, he burns one of these buildings down. For 10 points, identify these religious buildings, a golden one of which titles a Yukio Mishima novel.

ANSWER: temples [accept *The Temple of Dawn* or *Temple of the Golden Pavilion* or *Kinkaku-ji*] <OLit, WA>

13. Unlike most passages, which use the word *hemera*, the passage presenting this statement uniquely contains the word *epiousios*. The Catholic catechism organizes this statement as a series of seven petitions. Latin Rite Catholics do not use the doxology at the end of this statement, a doxology also not found in the version of it from Luke. English-speaking Christians, with the exception of Calvinists, generally use the word (*) “trespasses” in this statement, which Matthew introduces as part of the Sermon on the Mount. This statement asks “give us this day our daily bread” and “lead us not into temptation / but deliver us from evil.” For 10 points, the phrase “Our Father, who art in Heaven” begins what common Christian prayer?

ANSWER: The Lord’s Prayer [accept Our Father or Pater Noster until it is read] <Rel, WA>

14. Samuel Yates coined the term “titanic” for examples of these values that are written in the form of 10 to the power 999 plus n , with the smallest n being equal to 7. These values raised to “ p minus 1 divided by 2” are congruent to the Legendre symbol of these values over $p \bmod p$ according to Euler’s criterion. A topological proof about these numbers was given by Hillel Furstenberg. Eisenstein integers with this property are (*) irreducible. Perfect numbers have a one-to-one correspondence with a class of these numbers named for the Frenchman Mersenne. An unproven conjecture states that the number of these with a gap of “two” is infinite. Euclid showed that there are infinitely many of these numbers. For 10 points, name these non-composite numbers which are only divisible by themselves and one.

ANSWER: primes [accept any answer mentioning primes] <OSci, IJ>

15. This leader was accused of massacring troops after successfully besieging Basing House. This person led a campaign that ended the Eleven Years' War. His forces killed David Sinnot, who was attempting to negotiate a surrender. This leader suppressed the Corkbush Field mutiny after troops refused to declare loyalty to his commander. This father-in-law of Henry Ireton commanded the (*) "Ironsides" cavalry unit. His forces conducted brutal sacks of Wexford and Drogheda as part of his conquest of Ireland. John Lambert's Instrument of Government codified his power. This leader had disputes with his superior, Thomas Fairfax, under whom he helped win the Battle of Naseby. He helped organize the New Model Army. For 10 points, name this first Lord Protector of England.

ANSWER: Oliver Cromwell <Brit/ClassHist, JZ>

16. In Book X of the *Metamorphoses*, this character is told the fate of Atalanta and Hippomenes as a warning to fear wild animals. This character is conceived after an old nurse organizes twelve nights of lovemaking between a drunk king and a young maiden. He is not Perseus, but shortly after his birth, this character is locked in a chest and given to Persephone to be fostered. The blood of this character creates the (*) anemone flower. As an infant, he is found in the trunk of a tree, the result of his mother Myrrha's incestual affair with her father Cinyras. In most accounts, it is Artemis that sends a wild boar to gore this character to death after he is instructed to spend part of each year with his lover Aphrodite. For 10 points, name this beautiful youth from Greek mythology.

ANSWER: Adonis <Myth, EK>

17. A wife-sharing group of people in this place receives extensive training in gymnastics and music to control the soul. This place, which is contrasted with a luxury-maximizing, assailant-proof counterpart populated by pigs, relies upon a false myth of origin that states that different races of men originate from iron, brass, gold, and silver. A counterpart to this place is postulated by Glaucon. This place has a (*) class system consisting of workers, auxiliaries, and guardians. Poets are expelled from this place, which is ruled by philosopher-kings. The guardians of this place, which is called Kallipolis, spend 15 years trying to release prisoners from an allegorical "cave" from the same book. For 10 points, identify this ideal location described in a political treatise by Plato.

ANSWER: the (ideal) city (from Plato's *Republic*) [accept *The Republic*; or *Politeia*; accept polis or Kallipolis until "Kallipolis" is read] <Phil, WA>

18. A torso from this artwork served as the model for its artist's later *Bacchantes Embracing*; that torso is from one of the three sirens on a rock depicted in this work, who are unusually beautiful. Hundreds of preparatory sketches called "black drawings" were made for this masterpiece, which is shown in a photo by its artist's student Jessie Lipscomb that indicates how a portion titled *Fleeting Love* was moved to the left. This sculpture's structure was modeled in appearance on (*) Ghiberti's doors to the Florence baptistry, and part of it was modeled on *Ugolino and His Sons* by Carpeaux [car-POE]. It depicts a pair of kissing lovers named Paolo and Francesca and contains its artist's famous *The Thinker*. For 10 points, name this monumental sculpture of a scene from *The Inferno* by Auguste Rodin.

ANSWER: *The Gates of Hell* [or *La Porte de l'Enfer*] <OArts, WA>

19. A character in Richard Linklater's film *Waking Life* quotes this non-Longfellow poet, who warns, "Life is not a dream" and "The living iguanas will come and bite the men who do not dream" in the "City That Does Not Sleep." This author wrote of a "Civil Guard" on "black horses" with "black shoes" riding down the street with their "patent leather souls." Langston Hughes translated this author's collection including the line (*) "Green, how I want you green!" A poem by this author repeats "I will not see it!" about "the blood / of Ignacio on the sand" and describes a funeral "At five in the afternoon." In a play by this author, Adela kills herself during an eight-year mourning period imposed by the title matriarch. For 10 points, name this author of *Gypsy Ballads*, "Lament for the Death of a Bullfighter" and *The House of Bernarda Alba*.

ANSWER: Federico Garcia Lorca <EuroLit, JC>

20. This party ridiculed the people of Cheshire, Massachusetts, for creating the *first* instance of a 1200-pound "mammoth cheese." A member of it once called the U.S. the "world's last hope" because it was a "fast-anchored Isle." William Charles depicted that member of this party praying, in a cartoon subtitled "Leap, No Leap." Thomas Pickering was one of this party's members who were accused of forming the (*) Essex Junto and proposing that New England secede in response to the War of 1812. Rufus King was the last presidential candidate of this party, which shares its name with a set of 85 essays written under the pseudonym "Publius." For 10 points, name this early American political party, opposed by the Democratic-Republicans of Thomas Jefferson.
ANSWER: Federalist Party <AmHist, RY>

IF THE GAME IS A TIE AFTER REGULATION: Report to the tournament director. Then, read a bonus from the tiebreakers packet that the tournament director determines the team has not yet heard.

BONUSES

1. These devices come in hadronic and electromagnetic types, which are typically made of high-Z materials to maximize their interactions with electrons and photons. For 10 points each:

[10] Name these particle detectors which track “showers” of particles produced when an incident particle interacts with the detector. They share a name with a completely unrelated device used in chemistry.

ANSWER: calorimeters

[10] Electromagnetic calorimeters are characterized by their radiation length, which is the distance at which the energy of an electron will be reduced to this fraction of its original value. The time constant for a discharging RC circuit gives the amount of time required to reduce the voltage to this fraction of its original value, which is around 37 percent.

ANSWER: 1 over e [or equivalent expressions like “the inverse of e” or “1 divided by e”]

[10] The electromagnetic calorimeter used in the CMS experiment at CERN is made of the tungstate of this element. This element’s high atomic number of 82 makes it very useful in radiation shields to block X-rays and gamma rays.

ANSWER: lead [or Pb] <Phys, BB>

2. A voice-over in this ad paraphrases Auden by saying “We must either love each other, or we must die.” For 10 points each:

[10] Identify this controversial TV ad that aired only once during an NBC broadcast of the film *David and Bathsheba*. In it, a girl pulls petals off a flower before a nuclear bomb detonates.

ANSWER: “Daisy” ad

[10] The “Daisy” ad supported this incumbent president’s 1964 campaign against Barry Goldwater. This architect of the Great Society became president after the assassination of JFK.

ANSWER: Lyndon Johnson [Lyndon Baines Johnson; accept LBJ; prompt on Johnson]

[10] This three-word phrase nicknames a 1953 speech delivered at the UN that proposed creating an International Atomic Energy Agency. This speech also names a program by which the U.S. helped start Iran’s nuclear program in 1957.

ANSWER: “atoms for peace” speech [by Dwight Eisenhower] <AmHist, RY>

3. A character in this novel recites a line from a poem by Gerard Nerval about the importance of the present before entering a cantina and being shot to death. For 10 points each:

[10] Name this novel that opens with Ixca Cienfuegos declaring “in Mexico City there is never tragedy but only outrage.” It follows the lives of Mexico City residents like business tycoon Federico Robles.

ANSWER: Where the Air is Clear [or La region mas transparente]

[10] Another business tycoon created by the author of *Where the Air is Clear* is this man who takes over Don Gamaliel Bernal’s estate and marries his daughter Catalina in a novel that he narrates from his deathbed.

ANSWER: Artemio Cruz [accept either name]

[10] This Mexican author, one of the major writers of the Latin American Boom, wrote *Where the Air is Clear* and *The Death of Artemio Cruz*.

ANSWER: Carlos Fuentes [Carlos Fuentes Macias] <OLit, RY>

4. These creatures can be identified by cooking raw eggshells because it forces them to speak up out of sheer bafflement. For 10 points each:

[10] Name this species of sadistic, shapeshifting monster from Celtic folklore. When born to fairies, these deformed creatures are often swapped out with human babies.

ANSWER: changeling [or síofra; or crimbil]

[10] This class of Irish fairy usually takes the form of an old hag whose hair-raising wail signals the death of a human being.

ANSWER: banshee [or bean sí; or bean sidhe]

[10] Men who capture one of these mischievous fairies are granted three wishes that often go awry. These short old men are known to hide pots of gold at the ends of rainbows.

ANSWER: leprechaun [or leipreachán] <Myth, EK>

5. Jacqueline Kennedy wore a pink suit produced by this company that was stained with blood from JFK's assassination to Lyndon Johnson's swearing-in as president. For 10 points each:

[10] Name this French fashion house directed by Karl Lagerfeld, whose namesake designer popularized the use of jersey knit and designed a famous women's suit.

ANSWER: House of Chanel [accept Coco Chanel or Gabrielle Bonheur Chanel]

[10] A Lagerfeld-designed wedding dress is the centerpiece of a 2016 exhibit at this New York City museum; its Costume Institute also exhibited the late Alexander McQueen's work in 2011. This museum is America's largest.

ANSWER: Metropolitan Museum of Art [or "the Met"]

[10] Coco Chanel called this Spanish designer the "truest couturier." This teacher of Hubert de Givenchy designed a famous "square coat," and his namesake fashion house has been led by men like Nicolas Ghesquiere and Alexander Wang.

ANSWER: Cristobal Balenciaga Eizaguirre <Other, RY>

6. This character attempts to thwart the marriage of Masetto and Zerlina by seducing the latter in the duet "*Là ci darem la mano*." For 10 points each:

[10] Name this operatic character who slays the Commendatore in a duel, only to be greeted by his likeness in the bass aria "*A cenar teco m'invitasti*," or "You invited me to dine with you."

ANSWER: Don Giovanni

[10] This composer wrote *Don Giovanni* and contrasted traditional Catholic values with Enlightenment ideals in his opera *The Magic Flute*.

ANSWER: Wolfgang Amadeus Mozart

[10] In this duet from another Mozart opera, Susanna writes down a letter dictated by Rosina as she attempts to unveil her husband's infidelity.

ANSWER: "Sull'aria" [or "Sull'aria... che soave zeffiretto"] <OArts, EK>

7. The earliest source to mention this location is the monk Diucil, helping confirm that it was first settled by a mission of Gaelic monks. For 10 points each.

[10] Identify this location, which was later governed by the Lawspeaker and the Althing legislature.

ANSWER: Iceland [or Ísland (EES-lahnt)]

[10] A ruler with this name ordered the death of historian Snorri Sturluson as part of his conquest of Iceland and died on the Orkney Islands during a war with Alexander III of Scotland over the Hebrides and the Isle of Man. A later king of this name married Margaret I of Denmark.

ANSWER: Haakon [IV and VI]

[10] Iceland was the birthplace of this son of Erik the Red, who led the first Viking expedition to North America.

ANSWER: Leif Erikson [accept either underlined portion] <EuroHist, JZ>

8. This play's rehearsal is stopped by a man who says "life is full of infinite absurdities, which, strangely enough, do not even need to appear plausible, because they are true." For 10 points each:

[10] Name this play, whose designated lead actor complains about having to wear a cook's cap. Its frustrated rehearsal prompts the exclamation "I've lost a whole day over these people!"

ANSWER: Mixing it Up [accept *The Rules of the Game*; or *Il Giuoco delle Parti*]

[10] This Italian dramatist wrote *Mixing It Up*, as well as a play in which several ordinary citizens interrupt its rehearsal, titled *Six Characters in Search of an Author*.

ANSWER: Luigi Pirandello

[10] In another Pirandello play, a nobleman starts believing he is an 11th century king with this name after falling off his horse.

ANSWER: Henry [or Enrico; accept Henry IV or Enrico IV] <EuroLit, WA>

9. Methods for generating these entities can be classified as "hard" or "soft" depending on how likely the products are to fragment. For 10 points each:

[10] Name these things which can be produced by MALDI and ESI. The energy required to form one of these things increases while going across a period, and decreases while going down a group due to shielding.

ANSWER: ions

[10] Molecules must first be ionized before they are sorted in this technique, which separates analytes by their m/z [m to z] ratio.

ANSWER: mass spectrometry [or mass spectroscopy; prompt on MS]

[10] One reason ESI is commonly used to ionize proteins for mass spectrometry is that it easily produces ions with this property, effectively extending the range of the analyzer.

ANSWER: multiply charge [accept anything along the lines of "the charges are greater than one"] <Chem, AW>

10. This man's most famous disciple is probably Swami Vivekananda. For 10 points each:

[10] Identify this 19th century Bengali mystic whose pupil Mahendranath Gupta wrote the most widely-read source on his life. The mission named for this man in Calcutta set up Hindu societies throughout the United States.

ANSWER: Ramakrishna Paramahansa [or Gadadhar Chatterji]

[10] In 1866, Ramakrishna became a priest of this dark-skinned Hindu goddess. This aspect of Shakti was worshipped by the Thuggees, who emphasized her violent nature.

ANSWER: Kali

[10] Ramakrishna was a student of the "Advaita" school of exegesis, or interpretation, of these ancient Hindu texts. Thousands of hymns to ancient deities are collected in the "Rig" one.

ANSWER: Vedas [accept Advaita Vedanta; accept Rig Veda] <Rel, WA>

11. A person with this name defeated the forces of Euetion at the Battle of Amorgos during the Lamian War. For 10 points each:

[10] Give this name of two generals nicknamed "the White" and "the Black." The latter allegedly saved his king from death by severing the arm of Spithridates; he was repaid with death in a drunken fight amidst Persian ruins.

ANSWER: Cleitus [or Clitus; or Kleitros]

[10] Cleitus the Black had saved the life of this Macedonian ruler and son of Philip II who would later defeat Darius III at the Battles of Gaugamela and Issus.

ANSWER: Alexander the Great [or Alexander III of Macedon; or Megas Alexandros]

[10] Many generals of Alexander the Great are known by this title because they laid claim to various parts of his empire after his death and sought to succeed him. They include people like Seleucus and Ptolemy.

ANSWER: Diadochi [or Diadochoi; prompt on Successors] <Brit/ClassHist, JZ>

12. This thinker's readings of Aristotle and other philosophers led him to develop three degrees of clarities in the paper "On a New List of Categories." For 10 points each:

[10] Name this philosopher, who expanded on those ideas in the paper "How to Make Our Ideas Clear."

ANSWER: Charles Sanders **Peirce**

[10] Much of Peirce's work was published in a magazine named for the "popular" form of this discipline. The "method" employed in this discipline uses hypotheses and experiments to discover facts.

ANSWER: **science**

[10] Peirce attacked the methods of inquiry used by this philosopher as a "salad" which were not built on sincere foundations. This philosopher aimed to replace the standard metaphysics curriculum with a synthesis of his previous books titled *Principles of Philosophy*.

ANSWER: René **Descartes** <Phil, WA>

13. This thing comes in "drift" and "fast" varieties, depending on if it is attached to land. For 10 points each:

[10] Name this substance whose high albedo can cause positive thermal feedback when the total amount of it changes.

ANSWER: (sea) **ice**

[10] These structures comprised of sea ice are chunks of glacier that have fallen into the ocean. Only the top component of these structures is visible due to their density.

ANSWER: **icebergs**

[10] It is hypothesized that polynyas in the North Atlantic may provide a significant source for the dense, cold water required to drive this entity. This "global conveyor belt" is the source of deep water currents and is named for the two variables that cause it.

ANSWER: **thermohaline circulation** [or **THC**] <OSci, RH>

14. During this century, Johannes Ockeghem wrote the first complete setting of the requiem mass. For 10 points each:

[10] Name this century in which composers such as Gilles Binchois [ZHEEL bin-shwah] and Guillaume Dufay [gee-yohm doo-"fie"] worked under the patronage of the Duchy of Burgundy.

ANSWER: **15th** century [or **1400s**; or the **Quattrocento**]

[10] During the fifteenth century, the isorhythm became an obsolete technique for composing music in this genre of sacred choral music, which is contrasted with the secular madrigal.

ANSWER: **motet**

[10] Four-part choral music became the norm by the end of the fifteenth century. This Italian word is the modern name given to the highest-pitched female voice, possessed by such virtuosos as Maria Callas.

ANSWER: **soprano** <Music, EK>

15. Answer the following about butlers in British literature, for 10 points each.

[10] Though this English writer's creation Reginald Jeeves serves Bertie Wooster as a valet, this man also created the butler Sebastian Beach, who serves Lord Emsworth in many of his stories set at Blandings Castle.

ANSWER: P.G. **Wodehouse** [Pelham Grenville **Wodehouse**]

[10] J.M. Barrie wrote about the resourceful title butler in his play *The Admirable Crichton*, but is much better known for popularizing the name "Wendy" with his novel about this "Boy Who Wouldn't Grow Up."

ANSWER: **Peter Pan** [accept either name]

[10] In Kazuo Ishiguro's novel *The Remains of the Day*, Stevens is such a devoted butler that he even works the day this person dies. Stevens admires this butler for staring down two men who insulted his employer, Mr. John Silver.

ANSWER: Stevens' **father** [or **William** Stevens; accept obvious equivalents like "Mr. **Stevens, Sr.**"; prompt on **Stevens**] <BritLit, RY>

16. This artist placed a small rabbit at the bottom of his painting of the circumcision of Jesus, which he took on his trip to Rome to seek Clement VII's patronage. For 10 points each:

[10] Name this Mannerist who painted himself with an elongated hand in the foreground of another work he took on that trip, his *Self-Portrait in a Convex Mirror*.

ANSWER: Parmigianino [accept Girolamo Francesco Maria Mazzola or Francesco Mazzola]

[10] The red-clad title figure of this Parmigianino painting lies slumbering next to a kneeling John the Baptist. John's actually the most prominent figure in this painting: he carries a staff, wears a leopard skin, and points upwards towards a nude Christ child standing on a rock.

ANSWER: *The Vision of St. Jerome*

[10] This woman can be seen standing behind her proud child in *The Vision of St. Jerome*. Parmigianino's most famous painting is a depiction of this woman with a long neck.

ANSWER: Virgin Mary [or Madonna; or various foreign names like Maria or Maryam] <Painting, PC>

17. David Funder's research on this phenomenon is found in a book titled for its *Puzzle*. For 10 points each:

[10] Identify this concept from psychology, whose major traits are divided into the Big Five. It is assessed by the Myers-Briggs test, which outputs results like "ENTJ."

ANSWER: personality

[10] This United States university lends its name to the most widely-used psychometric test of adult personality, called the "Multiphasic Personality Inventory."

ANSWER: University of Minnesota [or Minnesota Multiphasic Personality Inventory]

[10] This psychologist's book *Personality and Assessment* argued that trait assessment failed to create consistent personality predictions. He tested preschoolers' ability to delay gratification in the "marshmallow" experiment.

ANSWER: Walter Mischel <SocSci, WA>

18. Colchicine functions by preventing these entities from polymerizing, halting their dynamic instability. For 10 points each:

[10] Name these structural components of the cytoskeleton formed from polymers of tubulin. The motor proteins dynein and kinesin are responsible for transport along these structures.

ANSWER: microtubules

[10] Anterograde transport goes towards this end of a microtubule, named for the superior propensity to polymerize at this end. This end is the subject of the "search and capture" model, in which this end stops being dynamic when "captured."

ANSWER: plus end

[10] The motor protein myosin is responsible for transport along this other structural protein, which forms microfilaments in addition to the sarcomeres that allow muscle to move.

ANSWER: actin <Bio, AW>

19. Some historians argue that a man from this region, Kanji Malam, guided Vasco da Gama to India, which isn't totally implausible since tons of people from here settled in Zanzibar. For 10 points each:
[10] Identify this region of India, home to prominent commercial communities like the Menon Muslims and Mohandas Gandhi's family. Its largest city was known as the "Gate of Mecca" because of its prominence in the silk and diamond trade.

ANSWER: Gujarat

[10] Gujarat managed to stay an independent sultanate until it was conquered by this Islamic empire founded by Babur, which came to control most of India.

ANSWER: Mughal empire

[10] Gujarat fell into chaos after the death of this Mughal emperor in 1707. This emperor, known as "Alamgir" or "world-seizer" for bringing the empire to its greatest extent, reinstituted the *jizya* tax on non-Muslims.

ANSWER: Aurangzeb <WorldHist, WA>

20. John William DeForest used this phrase in 1868 to call for a response to English greats such as "Thackeray and Trollope," and Lawrence Buell wrote a book titled for *The Dream* of this concept. For 10 points each:

[10] Give this phrase that titles a DeForest essay and refers to a genre of work that can embody the truth and ethos of a certain country during its time. Buell argued that this concept is vital to the myth of a nation perpetually under construction.

ANSWER: "The Great American Novel"

[10] DeForest quipped that if Americans were like this author's hero Natty Bumppo, then we would be "eighteen millions of bores." Unfortunately for him, this author of *The Last of the Mohicans* is now considered a Great American Novelist.

ANSWER: James Fenimore Cooper

[10] In 2010, TIME pissed everyone off by calling this author *The Great American Novelist*. This man wrote about the grief-stricken Lambert family in *The Corrections* in addition to his later novels *Freedom* and *Purity*.

ANSWER: Jonathan Franzen <AmLit, JC>

IF ADDITIONAL BONUSES ARE NEEDED: Report to the tournament director. Then, read a bonus from the tiebreakers packet that the tournament director determines the team has not yet heard.