

## Teterboro's Academic Packets of Intellectual Rigor

## Packet 4

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**Tossups**

1. **This writer wrote of “a light in sound, a sound-like power in light” in a poem that proclaims “most soothing sweet it is to sit beside our cot” with “my pensive Sara.” This author also wrote a poem in which a woman meets the supernatural Geraldine. This writer was inspired by a dream forgotten after being interrupted by a person from (\*) Porlock in a poem featuring Mount Abora, the River Alph, and an Abyssinian maid. That poem describes “a stately pleasure dome decree” by the title man in Xanadu. For 10 points, name this poet of the “Eolian Harp” and “Kubla Khan.”**

ANSWER: Samuel Taylor Coleridge

2. **Adhesion of clay on rocks in these places results in their namesake reddish black “varnish” covering them. These regions’ namesake “pavement” consists of closely interlocking rocks that may form regs or hamadas. Aeolian processes common between 20 and 40 degrees north and south latitude form (\*) ergs in these regions. The Great Green Wall of China and Great Green Wall of the Sahel were launched to limit the growth of these regions by planting a buffer of trees. These structures often form in rain shadows. For 10 points, name these arid environments that contain dunes.**

ANSWER: deserts

3. **Jorgen Persson and Timo Boll once played an exhibition match of this sport that at one point featured two balls. Western players of this sport often use a shakehand grip, while eastern players tend to favor the penhold grip. Ma Long has won 5 consecutive Pro Tour tournaments in this sport, while in the 2016 Olympics all four gold medals in it were swept by his home country of (\*) China. Similar to a larger courted sport, in this sport, the ball must bounce once per side of the court before being returned. For 10 points, name this sport in which 2 players use small rackets to hit a small ball across a table.**

ANSWER: ping pong [or table tennis]

4. **One work in E major scored for violin and piano titled as a “greeting” of this subject was composed by Edward Elgar. “Dreams” of this subject titles a collection of three solo piano works, the last of which is in Ab major and contains a climactic B major middle section that begins and ends with two cadenzas. This subject of Liszt’s (\*) *Liebestraum* is paired with death in the dramatic finale piece of Wagner’s opera *Tristan und Isolde*. For 10 points, name this subject with a musical “theme” in Tchaikovsky’s *Romeo and Juliet*.**

ANSWER: love (accept Salut d’Amour, Love Theme, Love and Death, Liebestod, and Liebestraum before mentioned, accept equivalents like amour or romance)

5. **One project ordered by this ruler includes a depiction of the grotesque and overweight Queen Ati. This ruler ordered the construction of a monument still left in carved bedrock, the Unfinished Obelisk at Aswan. This ruler's mortuary temple at Deir el-Bahari includes a relief detailing a trading expedition to the Land of (\*) Punt, which brought back incense and myrrh trees. Many statues of this pharaoh were destroyed by Thutmose III, her stepson with whom she jointly ruled for 22 years. For 10 points, name this female pharaoh who wore a fake ceremonial beard.**

ANSWER: Hatshepsut

6. **A student of this man documented the Yahi language by studying Ishi, the last uncontacted Native American. This man created an argument in which cultures cannot be compared as superior since people see and judge others based on their own cultures in (\*) cultural relativism. This creator of the four-field approach opposed the idea of scientific racism in his *The Mind of Primitive Man*, which states that all humans have the same basic characteristics. For 10 points, name this father of American anthropology who thought students like A. L. Kroeber and Ruth Benedict at Columbia University**

ANSWER: Franz Boas

7. **One character in this play notes how living people are "shut up in little boxes" while in a cemetery. The narrator of this play replies "the saints and poets, maybe" when asked by the protagonist if anyone "realizes life while they live it." Three men discuss a (\*) wedding in the rain in the second act of this work, during which the paperboy bemoans how their local team would lose the best pitcher they ever had. George and Emily get married in the second act of, for 10 points, what play, set in Grover's Corners, written by Thornton Wilder, and narrated by the Stage Manager?**

ANSWER: Our Town

8. **The biosynthesis of this compound involves the synthesis of quinolinic acid and niacin, the latter of which is produced from the oxidation of tryptophan. The molecular structure for this alkaloid consists of a methyl group attached to pyrrolidine which is attached to a pyridine ring. This compound acts as a receptor antagonist in two receptor subunits contrasted with muscarinic ones, which can be stimulated by (\*) acetylcholine. This drug, when absorbed "electronically," has not been shown to cause emphysema, unlike when it is smoked. For 10 points, name this drug found in tobacco leaves and cigarettes.**

ANSWER: nicotine

9. **One of the first discovered dinosaurs was a hadrosaurus found in this state's Woodbury formation. The first movie picture industry in the US was established in this state, where the first movie studio and study of subliminal messaging happened in its town of Fort Lee. Salt water taffy was first invented on a (\*) resort casino town on this state's shore. One inventor who worked in this state invented the phonograph and a commercial incandescent light bulb. For 10 points, name this state where Thomas Edison set up his laboratory in Menlo Park, a few miles south of Newark.**

ANSWER: New Jersey

10. **Taking the curl of the curl identity of this scientist's work can be used to derive the wave equations. This scientist formulated a thought experiment in which gas particles are separated by speed and created a distribution modeling the kinetic theory of gases along with Ludwig (\*) Boltzmann. This scientist added a changing electric field or displacement current to one law, and also collected a law which stated that magnetic monopoles do not exist. For 10 points, name this scientist, whose set of four equations describing electromagnetism includes Ampere's law.**

ANSWER: James Clerk Maxwell [accept Maxwell's equations or Maxwell-Boltzmann equation]

11. **The high salinity of this body of water can be partially attributed to Agulhas Leakage, which brings salt and warm water to its southeast. A still region in the center of a large gyre in the northern region of this body of water is named for the red algae (\*) Sargassum.** This body of water's second deepest point, the South Sandwich trench, is found east of the Scotia Plate. The center of this body of water is traversed by a large mid-ocean ridge. For 10 points, name this ocean between South America and Africa.

ANSWER: Atlantic Ocean

12. **In 2004, the US government used private contractors to train teams in this country to eradicate drugs after a 2000 ban crippled its economy. In this country, the PDPA successfully overthrew Mohammed Daoud Khan in the Saur Revolution, after which Nur Muhammed Taraki became president. The (\*) Peshawar Accords ended this country's civil war, marking a victory for the Mujahideens.** The Soviet invasion of this country led to the US leading a boycott of the 1980 Summer Olympics. For 10 points, name this country where US forces overthrew the Taliban in 2001.

ANSWER: Afghanistan

13. **The current design of these objects was created by John Flanagan, which features the Houdon Bust. These are the larger of two items targeted by an act passed by Lyndon B. Johnson which eliminated silver from these items. The back of the bicentennial one of these objects depicts a (\*) colonial drummer next to a torch surrounded by 13 stars.** One variant of these items produced in Connecticut features the Charter Oak, while a variant from Utah features an arch from Arches National Park. For 10 points, name these coins worth 25 cents.

ANSWER: quarter

14. **This process occurs in the Balinese Ngaben ceremony, which involves carrying a large wooden ox in a not straight path in order to confuse spirits. Columbarias are sometimes found in Catholic facilities to facilitate this process. In Hinduism, this non-wedding process typically involves close relatives circling a person 3 times, and after its completion, the (\*) remnants are released into the Ganges River.** In Shinto tradition, relatives use chopsticks to pick out bones following this process, which often use open air pyres. For 10 points, name this process in which the body is burned following death.

ANSWER: cremation (prompt on funeral)

15. **In one essay, a writer from this country described the use of the term "subaltern" when discussing its colonial history. Forbidden love between two twins from this country feature in *The God of Small Things*. In one novel, a character with telepathy and a powerful nose is born during the moment of this country's (\*) independence.** In one short story, Bobby visits this country, where Mr. Kapasi rescues him from chasing monkeys. For 10 points, name this setting of Jhumpa Lahiri's *The Interpreter of Maladies* and Salman Rushdie's *Midnight's Children*.

ANSWER: India

16. **One method for this process uses the trapdoor function generated from the discrete logarithm of a point on an elliptic curve. This process typically uses one-way deterministic hash functions. Another form of this process finds the modular inverse of a number coprime to the product of two numbers.** The (\*) difficulty of factoring into two large prime numbers is used in the RSA type of this process to repel brute force attacks. The asymmetric type of this process uses both a public and private key. For 10 points, name this method of securing information online, typically using a cipher.

ANSWER: encryption (accept word forms and cryptography, prompt on securing data)

17. **One artwork from this movement depicts Alice Sethe in blue and gold. Another artist from this movement painted a portrait of a young woman powdering herself in front of a blue wall. One work from this movement is a portrait of Felix Feneon in front of a rhythmic background holding a white flower painted by (\*) Paul Signac. A more famous painting from this movement depicts several women holding umbrellas on an island in the Seine. For 10 points, name this movement which produced *A Sunday Afternoon on the Isle of La Grande Jatte* by Georges Seurat, characterized by using small dots.**

ANSWER: **pointillism**

18. **A monk from this period created a water powered celestial globe, which used the first escapement mechanism. One leader of this dynasty led a “Great” persecution of Buddhists due to his Daoist beliefs and need to fund his military. Yang Guifei, the latest of China’s Four Beauties, was the favorite consort of this dynasty’s (\*) Emperor Xuanzong. During this dynasty, its capital of Chang’an was the most populous city in the world, and woodblock printing was invented. For 10 points, name this second Chinese golden age preceding the Song dynasty.**

ANSWER: **Tang** Dynasty

19. **In one novel by this author, a blind man argues to the protagonist that laughter is inherently evil. Another novel by this man ends with the narrator contemplating the death of Belbo after reading his diary. A conspiracy based on the Knights Templar known as the Plan is created by Casaubon and two editors in this author’s (\*) *Foucault’s Pendulum*. Several monks are poisoned by books before their monastery is burned down in a mystery novel by this man. For 10 points, name this author who created detective William of Baskerville in his novel *The Name of the Rose*.**

ANSWER: Umberto **Eco**

20. **The function of this organ, which may also lead to infantile glaucoma in the eye, is impaired in Lowe’s syndrome. The function of this organ can be determined by measuring levels of serum creatinine. This organ hydroxylates calcifediol to produce (\*) calcitriol, or vitamin D. The main function of these organs are performed in the glomerulus, which are located at the beginning of a nephron. These organs may have their function substituted through dialysis, and are each connected to a ureter. For 10 points, name this pair of bean shaped organs that filter blood.**

ANSWER: **kidneys**

**Bonuses**

1. The northwestern portion of this region contains the Thar Desert, which contains several endangered species and separates it from a neighboring country's state of Sindh. For 10 points each:
 

[10] Name this peninsular region, the westernmost state in its country, which contains the ancient city of Lothal.

ANSWER: **Gujarat**

[10] Gujarat is a state of this country. The state's Gir national forest contains this country's only wild population of Asiatic Lions, while other states in this country contain populations of Bengal Tigers.

ANSWER: **India**

[10] The critically endangered Gharial can sometimes be found in this river, which forms the world's largest delta after it merges with the Ganges River.

ANSWER: **Brahmaputra**
  
2. This politician proposed the Share Our Wealth plan, which limited the amount of money the rich could possess during the Great Depression. For 10 points each:
 

[10] Name this politician nicknamed "The Kingfish" who served as the inspiration for Willie Stark in *All the King's Men*.

ANSWER: Huey **Long**

[10] Huey Long served in this position until his assassination in 1935. In this position Huey Long proposed the Share Our Wealth plan, and he planned for this position to be his career to be his stepping stone towards the Presidency after serving as a governor.

ANSWER: **Senator of Louisiana**

[10] Huey Long famously opposed people from this industry, and his introduction of a tax on this good caused Cecil Morgan to attempt to impeach him. Earlier in his career, Long requested for Louisiana's pipelines in this industry to become public utilities.

ANSWER: **oil** (or **petroleum**)
  
3. In this novel, Alexandra Bergson forgives Frank Shabata despite him being responsible for killing her brother Emile. For 10 points each:
 

[10] Name this book set in Hanover, Nebraska, in which Emile is short under the same mulberry tree in which he begins his affair with Marie.

ANSWER: **O Pioneers**

[10] In this other novel Thea Kronborg becomes an opera singer and with Doctor Archie moves to Denver to pursue her dreams. The title of this sequel to *O Pioneers* was inspired by a Jules Breton painting.

ANSWER: **The Song of the Lark**

[10] This author wrote the Prairie Trilogy, which includes *O Pioneers*, *The Song of the Lark*, and *My Antonia*.

ANSWER: Willa **Cather**

4. Zebrafish are able to perform this process on their hearts and lateral line hair cells when they are damaged. For 10 points each:
- [10] Name this method in which organisms are able to regrow damaged parts of their bodies.  
ANSWER: **regeneration**
- [10] These critically endangered salamanders are able to completely regenerate their limbs and other parts of their body when damaged. These animals do not undergo metamorphoses and retain their gills during adulthood.  
ANSWER: **axolotls**
- [10] The filter feeding sponges of this phylum are able to regenerate from broken off pieces if the pieces contain the proper cell types. This phylum is the most primitive member of the animal kingdom.  
ANSWER: **Porifera**
5. Jean Francois Lyotard described this movement as “incredulity towards meta-narratives” in its namesake condition. For 10 points each:
- [10] Name this movement arising in the last half of the 1900s which believes that an objective natural reality doesn’t exist and that logic and reason are constructs.  
ANSWER: **postmodernism**
- [10] The founders of postmodernism, like Lyotard and Derrida, hailed from this European country. An earlier philosopher from this country, Rene Descartes, famously proclaimed “cogito ergo sum,” meaning “I think therefore I am.”  
ANSWER: **France**
- [10] Postmodernism is also skeptical of the idea of a “transcendent and universal” one of these concepts. Lyotard argues that this concept is lacking since legitimacy cannot exist after metanarratives.  
ANSWER: **truth**
6. This man owned both the Tragedy and Comedy villas and served as a magistrate for Emperor Trajan. For 10 points each:
- [10] Name this Roman lawyer and writer, who was raised by his uncle sharing the same name.  
ANSWER: **Pliny the Younger** (prompt on Pliny)
- [10] The most well known of Pliny’s works are these texts, which gives insight on the lives of Romans during his time. Book 10 of this work is addressed to Trajan and regards the persecution of Christians.  
ANSWER: **Epistulae**
- [10] The most well known letters from Epistulae are about this event, during which his uncle died at Pompeii.  
ANSWER: **Eruption of Vesuvius** (accept equivalents, prompt on stuff like “volcanic eruption”)
7. Should you wait before buying a new 7000\$ gaming PC? For 10 points each:
- [10] Name this law which implies that the processing power of computers grows exponentially over time while the price of computers continually declines.  
ANSWER: **Moore’s Law**
- [10] Moore’s Law observes that the number of these circuit elements doubles about every 2 years. These devices are used as an amplifier or a switch in a circuit.  
ANSWER: **transistor**
- [10] A major contributing factor to Moore’s Law is the high scalability of these modern transistors which have replaced the older bipolar junction types.  
ANSWER: **metal-oxide-semiconductor field-effect transistor** (accept **MOSFET**)

8. In one novel, this author described the 1951 Defiance Campaign, which opposed discriminatory laws in his home country. For 10 points each:
- [10] Name this author who wrote multiple anti-apartheid works based on his experience as president of the Liberal Party in *Ah, But your Land is Beautiful*.
- ANSWER: Alan Paton
- [10] In this novel by Alan Paton, Stephen Kumalo's attempts to find his son Absalom, and is helped by the priest Theophilus Msimangu.
- ANSWER: *Cry, the Beloved Country*
- [10] Like Kumalo, this farm owner also travels to Johannesburg after his son Arthur is shot and killed by Absalom. He offers support instead of spite after meeting Kumalo.
- ANSWER: James Jarvis (either underlined part is fine)
9. These plants produce fiddleheads which may uncoil and grow into fronds. For 10 points each:
- [10] Name these vascular plants which lack seeds and flowers, instead reproducing through spores.
- ANSWER: ferns
- [10] Fern fronds are examples of these flat plant structures, which are covered in a waxy cuticle on top to prevent water loss and possess stomata for gas exchange on the bottom.
- ANSWER: leaves (or leaf)
- [10] Rather than roots, ferns possess these elongated structures which absorb water and nutrients from the soil and anchor the plant. These structures are also found in some fungi.
- ANSWER: rhizoids
10. This payment method allows for money exchange between the drawer, who writes it, and the payee, who receives the transaction. For 10 points each:
- [10] Name this payment method in which a drawer orders a bank to transfer a certain amount of money from your bank account to another person's
- ANSWER: check
- [10] In order to endorse a check to insure that the check may only be usable by a specific person, the drawer must sign their name along with this phrase before the payee's name.
- ANSWER: "Pay to the Order of"
- [10] Another method to pay your tournament fees could be by using these prepaid documents. This payment method can also be purchased from grocery stores and post offices, and have a lower cap than checks.
- ANSWER: money order
11. Anan-see how much you know about the african trickster god Anansi. For 10 points each:
- [10] Anansi often took the form of this animal in various tales. Anansi took advantage of being in the form of this animal in order to use a silk string to reach the Sky Father Nyame.
- ANSWER: spider
- [10] In order to obtain all of these things from Nyame, Anansi had to complete 3 tasks, which were to capture Onini the Python, Osebo the Leopard, and the Mmoboro Hornets. Since beforehand the world lacked these things, Anansi found life to be very boring.
- ANSWER: stories
- [10] In another story of how Anansi got all the stories, he also had to capture Mmoatia, who was able to exhibit this ability. Anansi got around her ability by making her stuck to a doll and covering her with silk.
- ANSWER: invisibility (accept word forms)

12. One character in this novel, Nicholas Bulstrode, is a very wealthy banker and claims to be a devout Evangelist, but made his fortune as a pawnbroker selling stolen stuff. For 10 points each:  
[10] Name this “study of provincial life” about the inhabitants of the title town, such as Nicholas Bulstrode and Dorothea Brooke.  
ANSWER: **Middlemarch**  
[10] *Middlemarch* was written by this British author who also wrote *The Mill on the Floss* and *Daniel Deronda*.  
ANSWER: Mary Ann **Evans** (or George **Eliot**)  
[10] George Eliot included one of these literary devices at the beginning of each chapter, meant to introduce the reader to the novel with another familiar text. These short quotations also often serve to suggest the theme of the chapter.  
ANSWER: **epigraph**
13. This German architect designed both the Fagus Factory and Pan American building, and also founded a school of modernist architecture. For 10 points each:  
[10] Name this architect who also led Harvard’s architecture department and was originally from Weimar.  
ANSWER: Walter **Gropius**  
[10] Walter Gropius founded this school of German art whose name literally means “building house.” This school created the White City in Tel Aviv and many other modern buildings which later become world heritage sites.  
ANSWER: Staatliches **Bauhaus**  
[10] Gropius also designed a new campus for this city’s university in the 1950s. This capital city also contains a split turquoise dome to memorialize the soldiers who died in the war with Iran.  
ANSWER: **Baghdad**
14. This man’s namesake “shock” economic policy, which reduced price controls on private businesses, led to the skyrocketing of the prices of necessities and hyperinflation in his country. For 10 points each:  
[10] Name this former South American leader who fled to Asia shortly following a scandal in which it was revealed that he had embezzled 15\$ million to his intelligence service chief Vladimiro Montesinos.  
ANSWER: Alberto **Fujimori**  
[10] During his presidency, Fujimori fought against this terrorist marxist group by sending rifles to vigilantes known as the “rondas campesinas.” This group’s leader, Abimael Guzman, was arrested during Fujimori’s presidency in 1992.  
ANSWER: **Shining Path**  
[10] Fujimori was president of this South American country, where he was born in the seaside Miraflores district of its capital city of Lima.  
ANSWER: **Peru**

15. One example of these things named for Daniell contains conductors submerged in solutions of copper sulfate and zinc sulfate. For 10 points each:
- [10] Name these cells, which like batteries, can generate electrical energy, mainly through chemical reactions.
- ANSWER: **galvanic** cells (accept **electrochemical** cells)
- [10] In a galvanic cell, the half cells may be connected by one of these tubes which contain an electrolyte. These devices normally come in either glass tube or filter paper types
- ANSWER: **salt bridges**
- [10] In conditions other than the standard state, the reduction potential of a galvanic cell can be determined using this equation.
- ANSWER: **Nernst** Equation
16. A song in this musical lists raindrops on roses and whiskers on kittens as some of her “favorite things.” For 10 points each:
- [10] Name this musical about Maria, who gives a concert to Nazis in Edelweiss and studies to become a nun in Austria.
- ANSWER: *The **Sound of Music***
- [10] Maria teaches the seven children of this man to sing in songs like “My Favorite Things” and “Do-Re-Mi.” Eventually Maria marries this man and escapes with him over the Alps in Climb Ev’ry Mountain.
- ANSWER: Captain Georg **von Trapp**
- [10] *The Sound of Music* was written by this duo, who also produced Cinderella and many other popular Broadway musicals.
- ANSWER: Richard **Rodgers** and Oscar **Hammerstein** (accept in either order)
17. In this short story, Akaky Akakievich visits the tailor Petrovich after being bullied by his coworkers, but after he dies his ghost haunts St. Petersburg. For 10 points each:
- [10] Name this short story in which the title article of clothing is paid for with 80 rubles and eventually becomes stolen.
- ANSWER: “**The Overcoat**”
- [10] This Ukrainian born Russian author wrote about the unhelpful “important personage” who refuses to help Akaky in “The Overcoat.”
- ANSWER: Nikolai **Gogol**
- [10] In this other short story by Gogol, Aksenty becomes increasingly psychotic due to his unrequited love, and believes that China and Spain are the same country after previously claiming to be the heir to the Spanish throne.
- ANSWER: “**Diary of a Madman**”

18. For 10 points each answer the following about blocky games:

[10] Name this game in which wooden blocks are removed from a tower and relocated to the top, creating a taller and more unstable tower until the structure collapses.

ANSWER: **Jenga**

[10] This Russian video game features blocks falling down progressively faster and faster as rows clear after being completed. An I shaped block in this game is able to clear 4 rows at once.

ANSWER: **Tetris**

[10] Blocky characters are an iconic feature of this mmo and great creation platform. Virtual items can be sold in this game using an in game currency, but only those with a Builders Club membership may sell items in this game.

ANSWER: **Roblox**

19. This company's Uno board contains 14 digital and 6 analog I/O pins. For 10 points each:

[10] Name this company which produces open source microcontrollers as well as an integrated development environment to code software for the boards.

ANSWER: **Arduino**

[10] Arduino's IDE is written in this language, although it also supports C and C++ for coding syntax. Code in this language is run on its namesake virtual machine.

ANSWER: **Java** (do not accept or prompt on javascript)

[10] Arduino boards may be expanded using these devices. These solderless devices are often used to expand or prototype circuits and are composed of both terminal and bus strips.

ANSWER: **breadboards**

20. After Sambhaji, the founder of the Maratha Empire, refused to convert to Islam, this ruler brutally executed him. For 10 points each:

[10] Name this emperor who reinstated the jizya tax on non-muslims, the successor to his father Shah Jahan.

ANSWER: **Aurangzeb**

[10] The Maratha Empire fought a 27 year long war against this earlier Indian empire, then led by Aurangzeb. Other leaders of this empire include Akbar the Great.

ANSWER: **Mughal** Empire

[10] The Mughal Empire was established by Babur the Great after his victory over the Lodi Dynasty at this battle. A later battle at this site halted the expansion of the Maratha Empire following their defeat to the Durrani Empire.

ANSWER: the 1st Battle of **Panipat**