

Spring TJ Academic Scholastic Housewrite (STASH)

Written by Stefan Calin, Justin Chen, Sathya Gnanakumar, William Graf, Pratyush Jaishanker, Elliot Lee, Anuraag Kaashyap, Vishal Kanigicherla, Vance Kreider, Joshua Lian, Prithvi Nathan, Sohom Paul, Karthik Prasad, William Wang, Ryan Xu, and Kevin Zhang
Head Edited by Will Alston, with Ankit Aggarwal, Grant Li, James Malouf, Jack Mehr, Dan Ni, Ryan Rosenberg, and Michael Yue.

Packet 5

Tossups

1. SPANC reactions click 1,3-nitrones with these compounds. Propargylic cleavage is used to identify these compounds in mass spectrometry. Aldehydes are produced from tidiothese compounds via anti-Markovnikov hydroboration and subsequent tautomerization. Cyclohexadienes are formed in a Diels–Alder reaction where this group is a dienophile. A catalyst that will partially hydrogenate these compounds and is (*) poisoned with quinoline is named for Lindlar. The terminal examples of these groups have a pKa of about 25, and these non-polar functional groups feature two orthogonal *pi* bonds. These compounds have a general chemical formula of C_nH_{2n-2} . For 10 points, name these compounds with a carbon-carbon triple bond that differ from alkanes and alkenes.

ANSWER: alkynes <Calin, Science - Chemistry>

2. Some believers in this tradition are led by the Karlin-Stolin dynasty, whose followers are known for particularly ecstatic shouts during their *rikud* songs. An evangelist group in this tradition is named for an acronym denoting “Wisdom, Learning, and Faith.” Believers in this tradition largely hold contempt for the *misnagdim*, who were allies of a Lithuanian leader who issued a *cherem* against them, named the (*) Vilna Gaon. Courts and mystical prayers in this religious tradition are led by figures alternatively called *admor*, *tzadik*, or *rebbe*. New York’s Crown Heights neighborhood is home to a leading evangelist organization of this tradition called Chabad Lubavitch. The Baal Shem Tov founded, for 10 points, what branch of Orthodox Judaism?

ANSWER: Hasidism [or Hasidic Judaism, or Chasidim; accept Chabad Lubavitch before “Chabad”; prompt on Orthodox Judaism; prompt on Haredim by saying “we are looking for the tradition that Haredim originated from”; do not accept or prompt on “Conservative Judaism” or “Ultra-Orthodox Judaism”] <Kanigicherla, Beliefs - Religion>

3. In an opera by a composer from this country, a “mirror canon” plays as Nekrotzar shrinks into nothingness. A “musical sneeze” begins an opera from this country that contains the intermezzo “The Viennese Musical Clock.” Seven locations including a secret garden and a lake of tears feature in scenes from an opera from this country written in its composer’s “night music” style. In *Die Fledermaus*, Rosalinde pretends to be from this country by singing a (*) *czardas* (“CHAR-das”). The folk opera *Háry János* (“HA-ri YAN-os”) is set in this country. The title character of a 1918 opera from this country shows seven rooms to Judith, eventually revealing his former wives. For 10 points, name this home country of the composer of *Bluebeard’s Castle*, Béla Bartók.

ANSWER: Hungary [or Magyarország] <Prasad, Fine Arts - Other>

4. After his father “Red” is imprisoned for stealing a cow, a character created by this author becomes an apprentice to Harry Power. The protagonist of a novel by this man is beaten for eating too much Christmas pudding and is introduced to horse racing by Ian Wardley-Fish. This writer imitated the broken grammar of the Jerilderie Letter for a book in which the title (*) outlaw crafts a suit of armor for a shootout. Another novel by this author follows a factory heiress, who bets a priest that he cannot transport a glass cathedral to Bellingen. For 10 points, name this Australian author of *The True History of the Kelly Gang* and *Oscar and Lucinda*.

ANSWER: Peter Carey <Chen, Literature - World>

5. This dynasty’s collapse was accelerated by the declining quality of its elite Shence (“shun-tsub”) army, whose incompetent eunuch generals failed to defeat the rebellion of the salt merchant Huang Chao. This was the last dynasty to use the equal-field system of land distribution. Japanese visitors impressed by this dynasty’s capital borrowed its layout for their city of Nara. Its *jiedushi* (“j’yeh-doo-shih”) governors, who became the warlords of the following (*) Five Dynasties and Ten Kingdoms period, included a man who established the short-lived Yan dynasty in opposition to its emperor Xuanzong (“sh’wen-zong”). The golden age of this dynasty was ended by the An Lushan rebellion. For 10 points, name this Chinese dynasty that succeeded the Sui (“sway”).

ANSWER: Tang Dynasty <Lee, History - World>

6. In April 2019, a landmark implementation of this technology was completed in South Korea using non-standalone standards. In March 2020, California’s Public Utilities Commission announced a compromise approving a corporate merger, providing that this technology be widely available by 2026. Doctors in the EU have demanded a moratorium on this technology because it may increase exposure to FM-EMF (*) waves. Both Canada and the U.K. have moved to block Huawei’s implementation of this technology. Many are concerned that this technology will disrupt weather prediction and commercial aviation by interfering with GPS signals at low altitudes. For 10 points, name this cell phone technology whose name is short for “fifth generation.”

ANSWER: 5G [accept any answers including 5G, such as Huawei 5G or T-Mobile 5G; prompt on fifth generation; prompt on cell phone technology or cell networks] <Jaishanker, Modern World - CE>

7. This conflict was anticipated for a few years by a Russian-sponsored expedition with the same goal which was defeated at the Battle of Dragashani. Disgruntled veterans of this conflict led the September 3rd revolution to oust the Wittelsbach king who was installed in its aftermath, named Otto of Bavaria. During a major naval clash in this war, an alliance of Russia, France, and the UK defeated the forces of (*) Ibrahim Pasha at the Battle of Navarino. Lord Byron died at Missolonghi fighting in this war, which saw a reprisal depicted by Eugene Delacroix called the Massacre at Chios. For 10 points, name this war fought in the 1820s and 30s by insurgents against the Ottoman empire, which resulted in the formation of a country whose capital is Athens.

ANSWER: Greek War of Independence [or Hellenic War of Independence; accept equivalent answers which refer to the independence of Greece] <Kaashyap, History - European>

8. When this composer showed Samuel Dushkin a challenging triple-stop he had written on a napkin, Dushkin declared it impossible. That “passport chord” begins every movement of this composer’s violin concerto. This man commemorated Robert and Mildred Bliss’s 30th wedding anniversary with a chamber concerto titled for their estate. A 1930 symphony beginning with an unusually voiced E-minor chord that sets three (*) psalms was written during this composer’s neoclassical period. An early ballet by this composer depicts 13 princesses playing with golden apples before dancing a *khorovod*. That same work includes an “Infernal Dance” and ends with Prince Ivan defeating Kashchei. For 10 points, name this Russian composer of *The Firebird*.

ANSWER: Igor Stravinsky <Lian, Fine Arts - Auditory>

9. A 2019 study showed a tradeoff between the size of this structure and ornamentation in primates. The bell-clapper deformity allows this structure and the gubernaculum to move freely. A “determining factor” named for this structure is coded for by the *SRY* gene and activates *SOX9*. These structures are elevated in Prehn's sign to determine if they are torsed. Stimulation of the ilioinguinal [ill-ee-oh-in-gwee-nal] nerve is involved in this structure's (*) cremasteric reflex. Leydig cells respond to luteinizing hormone to produce one hormone in this structure while its Sertoli cells are found in the seminiferous tubules. The epididymis connects the ducts of this structure to the vas deferens. For 10 points, name this male reproductive organ that lies in the scrotum and produces sperm cells.

ANSWER: testes [accept testicles; accept testis-determining factor] <Kanigicherla, Science - Biology>

10. This character is described as “commander of chief of all the powers of an air” in a passage that describes stars shooting across a valley. One character would “always burst into a hearty laugh” after the mention of a deed of this character. Prior to encountering this character, one character passes by Wiley’s Swamp, where he finds a tree marking the (*) hanging of Major Andre. This character is said to vanish in “flash of fire” after reaching the church bridge. This character is described as a “goblin rider” and is later revealed to be Brom Bones in disguise. For 10 points, name this unnamed character who chases Ichabod Crane out of Sleepy Hollow in a Washington Irving story.

ANSWER: The Headless Horseman [prompt on Brom Bones with “what is he masquerading as” until mentioned, prompt on partial answers or a description] <Chen, Literature - American>

11. *Description acceptable:* The TTV method for carrying out this task was used to classify objects using the Kepler telescope. In December 2019, the ESA launched a probe primarily designed for this task called CHEOPS, which will carry out this task using transit photometry. Observations of disturbances in the radial velocity of 51 Pegasi (“PEH-guh-sigh”) led to one successful completion of this task by (*) Mayor (“my-OR”) and Queloz (“kay-LOS”), who won the 2019 Nobel Prize in Physics for their efforts. When this task was applied to the red dwarf TRAPPIST-1, it found 6 objects in its “Goldilocks zone” which may be habitable by life. For 10 points, identify this task in which super-Earths and other similar bodies are found at distances very far from the Sun.

ANSWER: detecting exoplanets [accept answers that refer to finding extrasolar planets or finding planets outside the Solar System; prompt on answers that refer to just finding planets by asking “where are the planets?”]

<Calin, Science - Astronomy>

12. A character in this play remarks on the difference between “poodle-men and cur-men” while speaking against the “compact majority” and is later seen gathering stones thrown at his window after his wife Petra is fired as a teacher. In this play, the President of the Temperance Society refuses to print a damaging article in the newspaper (*) *The Peoples’ Messenger*, which is edited by Hovstad. The protagonist is opposed by his brother Peter and discovers that Morten Kiil’s tannery is the source of “small animals” that infect the local water. For 10 points, name this Henrik Ibsen play in which the citizens of a small town turn against Doctor Stockmann.

ANSWER: An Enemy of the People [or En folkefiende] <Zhang, Literature - European>

13. A statue by this artist, titled *The Drinker*, was recovered in 2007 after it was stolen by Andy Link. A naked man hangs onto the ledge of a window as his lover’s husband looks for him in a work by this artist, who also depicted two “coppers” kissing. This artist’s work *Keep it Spotless* depicts a maid sweeping under a Damien Hirst painting. This artist says “art is a bit of a joke” in the documentary (*) *Exit Through the Gift Shop*. This artist created the 2018 work *Love is in the Bin* during an auction by hiding a shredder in a framed copy of a mural that depicts a girl releasing a heart-shaped balloon. For 10 points, name this anonymous graffiti artist from Bristol.

ANSWER: Banksy [prompt on Robert del Naja or Robin Gunningham with “what pseudonym were they using?”]

<Calin, Fine Arts - Visual>

14. A vice presidential nominee in this election year claimed his opponent wanted “to replace the Statue of Liberty with an iron-padlocked gate.” In this year, actor William Bogert argued that “a president ought to mean what he says” before refusing to support a candidate. Washington, D.C. received electoral votes for the first time in this election. A candidate in this election joked that he would “lob a (*) nuclear bomb into the men’s room of the Kremlin” and was supported by Ronald Reagan’s “A Time for Choosing” speech. A campaign ad aired in this election featured a little girl picking petals off a flower before cutting to a nuclear explosion. The “Daisy” ad aired during, for 10 points, what election in which Lyndon Johnson defeated Barry Goldwater?
ANSWER: Election of 1964 <Lee, History - American>

15. Historian Daniel Horowitz criticized this book’s use of the phrase “comfortable concentration camps” as problematic and trivializing. Other criticisms of this book include the introduction of bell hooks’ *From Margin to Center*, which claimed this book was only applicable to upper-middle class whites. This book’s thirteenth chapter cites Maslow’s hierarchy of needs to show that the title characteristic has been associated with (*) “low dominance” with regards to self-actualization. This book, based on a survey of its author’s Smith College classmates, discusses the “problem that has no name” in its first chapter. For 10 points, name this book that challenged norms of motherhood and housewifery among American women in the 1950s by Betty Friedan.
ANSWER: *The Feminine Mystique* <Nathan, Thought - Philosophy>

16. A queen in this literary work chooses to wear a blindfold in order to empathize with the suffering of her blind husband. It’s not the Bible, but when a sun god in this work blesses a girl with a child, she abandons the boy on a basket in a river out of shame at her teenage pregnancy. The clothes of another woman in this work magically grow longer as a villainous king tries to (*) disrobe her in court after she is wagered in a game of dice. In this epic, Kunti asks her children to share whatever they have brought home equally, so her five sons all marry the woman Draupadi (“DRAO-puh-dee”) instead of just Arjuna. The Kurukshetra war is depicted in, for 10 points, what Hindu epic featuring the Pandava (“PAHN-duh-vuh”) brothers?
ANSWER: *Mahabharata* [do not accept or prompt on “Bhagavad Gita” as no clue references it] <Kaashyap, Belief - Mythology>

17. In the *Canterbury Tales*, one of these people tells about a monk who borrows money from a merchant to pay the merchant’s wife to sleep with him. An allegorical Old English poem titled for one of these people enduring “harsh days” ends with the single word “Amen” and was translated by Ezra Pound. A character in another poem wakes up “a sadder and a wiser man” after hearing how one of these people lost his (*) soul to Life-in-Death in a dice game. That person appears at a wedding and laments “water, water, everywhere/nor any drop to drink” after shooting an albatross in Samuel Taylor Coleridge’s “Rime” of—for 10 points—what nautical person?
ANSWER: sailor [accept shipman or seafarer or ancient mariner] <Li, Literature - British>

18. The *Periplus of Pseudo-Scylax* was historically credited to an explorer employed by this ruler named Scylax of Caryanda. Modern scholars question the authenticity of this ruler’s account of a conspiracy he cooked up with the nobleman Otanes to oust a group of usurping priests. This ruler led a coup d’état against Bardiya, who he claimed had been impersonated by a magus named Gaumāta, as described in the (*) Behistun Inscription. Herodotus describes how this successor of Cambyses II burned Eretria after the Ionian Revolt. Pheidippides died of exhaustion after announcing the Athenian victory over this ruler at the Battle of Marathon. For 10 points, name this Achaemenid Emperor who led the first Persian invasion of Greece.
ANSWER: Darius I [or Darius the Great; or Dārayavauš I; prompt on Darius; prompt on Dārayavauš] <Kaashyap, History - Ancient>

19. **The derivation of the Onsager reciprocal relations begins by Taylor expanding this quantity and it holds only when its production is greater than zero. That production of this quantity is multiplied by temperature to give dissipated power. This quantity is given by the sum of negative p-sub-i log p-sub-i by one formula. The indistinguishability of particles in the Gibbs paradox results in the extensive (*) Sackur–Tetrode equation for this quantity’s calculation. Adiabatic and reversible processes have constant values for it. This quantity is given by the formula “k log omega” as shown by Boltzmann. The second law of thermodynamics suggests that it always increases in isolated systems. For 10 points, name this measure of the amount of disorder in a system.**

ANSWER: **entropy** [accept **entropy** production; prompt on S] <Calin, Science - Physics>

20. **The Twa people were removed from an "impenetrable" forest in this geographic feature. A mountainous subsection of this feature names a clawed frog endangered by the clearing of the Lendu Plateau. The common name of this feature was coined in a memoir of an expedition to Lake Rudolf by the Australian geologist John Gregory. The three branches of this feature radiate from a triple junction in the (*) Afar depression. The “Albertine” section of this geographic feature is home to a set of Great Lakes, including Albert, Edward, and Kivu. This feature begins in Lebanon and extends south through the Olduvai Gorge and into Malawi. For 10 points, name this divergent plate boundary which splits a namesake continental plate in Kenya, Nairobi, and other countries.**

ANSWER: The **Great Rift Valley** [or The **East African Rift** Valley; or the **East African Rift** System; accept **Albertine Rift** before “Rudolf”; prompt on rift or rift valley] <Lian, Modern World - Geo>

Bonuses

1. The failure of this object is often credited to the Royal Navy installing copper plating on its ships, though its more likely that this object's operator was just disoriented by carbon dioxide poisoning. For 10 points each:

[10] Name this wooden submarine built by David Bushnell that failed to sink the HMS Eagle in 1776.

ANSWER: **Turtle**

[10] The Turtle attempted to sink the HMS Eagle in the harbor of this city, which had been abandoned by the Continental Army after the Battle of Brooklyn Heights

ANSWER: **New York** City [or **NYC**]

[10] During the British Occupation, New York City was commanded by this general. He resigned after the failure of Burgoyne's expedition in 1777 and was replaced by George Clinton

ANSWER: Sir William **Howe**, 5th Viscount Howe <Wang, History - American>

2. One form of abolitionism holds that these entities have the fundamental right to not be owned by others. For 10 points each:

[10] Name these entities whose use as entertainment have been cited as forms of their abuse by philosophers like Tom Regan and Gary Francione.

ANSWER: **animals** [accept obvious similar words like **creatures**, prompt on **sentient beings** or similar words; prompt on **pets**]

[10] This Australian philosopher at Princeton University is a major animal rights activist and has popularized the term "speciesism" in his 1975 book - Animal Liberation.

ANSWER: Peter **Singer**

[10] Singer identifies with the "hedonistic" branch of this philosophy developed by Jeremy Bentham which holds a "fundamental axiom" in ensuring the "greatest happiness of the greatest number" of individuals.

ANSWER: **utilitarianism** <Nathan, Thought - Philosophy>

3. This figure's son is Nabu, the god of wisdom, and their sacred animal is the mušhuššu. For 10 points each:

[10] Name this Mesopotamian deity who became king of the gods after defeating a dragon who personified the salty waters, named Tiamat, as described in the *Enuma Elish*.

ANSWER: Bel **Marduk**

[10] Marduk was the chief god of this city and was honored during processions through its Ishtar Gate.

ANSWER: **Babylon** [or **Babel**, or **Babili**]

[10] Marduk establishes himself as king by taking this item from Kingu, the leader of Tiamat's armies. In other Mesopotamian tales, Ninurta reclaims this object by defeating the Anzu Bird.

ANSWER: The **Tablet of Destinies** [or **Tablets of Destiny**, or **dub namtarra**, or **tup šimātu**, or **tuppi šimāti**] <Kaashyap, Belief - Mythology>

4. Johann Bernoulli remarked “we recognize the lion by his claw” upon seeing Isaac Newton’s solution to this problem. For 10 points each:

[10] Name this problem in which one seeks to find the curve of fastest descent for a sliding bead moving without friction in a vertical plane. The solution to this problem is a cycloid.

ANSWER: **brachistochrone** (“bruh-KISS-tuh-crone”) problem

[10] Bernoulli’s solution instead envisioned the falling bead as a ray of light and applied this law of refraction, which relates the ratio of the sines of the angles of incidence to the speed of light in different media.

ANSWER: **Snell**’s law

[10] The modern solution to the brachistochrone problem uses an equation from the calculus of variations named for Euler and this man. In classical mechanics, that equation is used to find paths where the time integral of this man’s namesake quantity is stationary.

ANSWER: Joseph-Louis **Lagrange** [accept Euler-**Lagrange** equation; accept **Lagrangian**] <Paul, Science - Physics>

5. This composer’s *Picciola serenata* in B-flat major was written at the beginning of his national tour, after his appointment as director of the Italian opera in Vienna. For 10 points each:

[10] Name this Italian composer, known for his 26 orchestral variations on *La follia di Spagna* and many successful operas like *Armida*. He apocryphally had a rivalry with a more famous contemporary in late 18th-century Vienna.

ANSWER: Antonio **Salieri**

[10] This contemporary of Salieri was actually not his rival, despite the poisoning rumor that spread after this child prodigy’s early death. He produced works such as the Jupiter Symphony and *Eine Kleine Nachtmusik*.

ANSWER: Wolfgang Amadeus **Mozart**

[10] This student of Salieri, an Austrian virtuoso pianist, had also been taught by Mozart as a child. He succeeded Haydn as music director at the Esterházy estate and, like Haydn, wrote a trumpet concerto for Anton Weidinger.

ANSWER: Johann Nepomuk **Hummel** <Lee, Fine Arts - Auditory>

6. *Description acceptable*. One of these characters named Jenkin is enraged when another character rips out three pages of *Valerie and Theophraste*, causing him to beat her. For 10 points each:

[10] Name these characters. In the prologue of one work, two of these characters are described as bad while the other three are described as good.

ANSWER: **husbands** of The **Wife of Bath** [prompt on partial answers]

[10] The Wife of Bath appears in this collection of twenty-four stories by Geoffrey Chaucer, which includes characters like the Host and the Knight.

ANSWER: *The* **Canterbury Tales**

[10] In *The Canterbury Tales*, this big-boned character is frequently drunk and enjoys heaving doors off hinges. In this character’s tale, Absolon is tricked into kissing Alisoun’s behind.

ANSWER: The **Miller** <Chen, Literature - British>

7. An efficient photocatalyst for the creation of glass with this property relies on the Honda–Fujishima effect. For 10 points each:

[10] Name this property of glass such as Pilkington Activ that rely on a thin coating of superhydrophilic titanium dioxide to photochemically break down organic matter and drastically reduce contact angle leading to slip off.

ANSWER: **self-cleaning** glass [accept reasonable equivalents such as “glass that **cleans itself**”]

[10] Titanium dioxide efficiently catalyzes this process according to the Honda–Fujishima effect, which makes it popular for self-cleaning glass. This process is easily done via breaking of O-H bonds through electrolysis.

ANSWER: **water splitting** [accept **oxygen evolution**; accept logical equivalents such as “**breaking the bonds of water**”; accept a description of “forming **oxygen** and **hydrogen** gases from **water**” and prompt on partial answer]

[10] The realization of the Honda–Fujishima effect for non-UV light was done using a co-catalyst of this metal, with symbol Cu.

ANSWER: **copper** <Calin, Science - Chemistry>

8. A poem opens “Something there is that doesn’t love” one of these structures. For 10 points each:

[10] Name this type of structure whose existence is justified by the saying “good fences make good neighbors”.

ANSWER: a **wall** [accept “**Mending Wall**”]

[10] This author of the poem “Mending Wall” also wrote about two roads that diverge in a yellow wood in the poem “The Road Not Taken”.

ANSWER: Robert **Frost**

[10] In “Mending Wall,” the speaker notes that the wall is not useful since these animals are not present. Frost also described one of these animals who thinks “no more of wall-builders than fools” in a poem titled for one of these animals “in Apple Time”.

ANSWER: **cows** [accept “The **Cow** in Apple Time”] <Xu, Literature - American>

9. For 10 points each, answer the following about the some of the US’s island territories:

[10] The “American” part of this group of islands in the Pacific Ocean is named for a Polynesian people. The Treaty of Cession of Tutuila, surrendering control of the territory, was signed in its capital Pago Pago.

ANSWER: **Samoa** [accept American **Samoa** or **Samoan** people]

[10] This island, the largest in the Mariana Island Chain, was ceded to the US immediately following the Spanish-American War. The indigenous peoples on this island are called Chamorros.

ANSWER: **Guam**

[10] This territory was sold to the US by Denmark in 1917 due to fears of it being seized and used as a German naval base. Its three main islands are St. Croix, St. Thomas, and St. John.

ANSWER: US **Virgin Islands** <Nathan, Modern World - Geography>

10. The term “crowding out” is used to describe how an increase in these costs leads to less investment in a market sector. For 10 points each:

[10] Name this cost of borrowing set by the lender.

ANSWER: (real or nominal) **interest** rates

[10] Interest rates greatly impact savings and investment, such as corporate or government-issued bonds. Give the type of relationship between bond prices and interest rates.

ANSWER: **inverse** relationship [accept **negative correlation** or **negatively correlated**; accept descriptions like “as one increases, the other decreases”]

[10] The real interest rate and nominal interest rates will differ due to inflation. This equation expresses the nominal interest rate as the sum of the real interest rate and expected inflation.

ANSWER: **Fisher** equation <Xu, Thought - Social Science>

11. One of these features was sculpted by Andrea Pisano, and is adorned by scenes including the punishment of Zechariah. For 10 points each:

[10] Name these features, another one of which was fashioned by Lorenzo Ghiberti after the Arte di Calimala judged that his sculpture of the Sacrifice of Isaac was better than Filippo Brunelleschi's.

ANSWER: **doors** [accept but DO NOT REVEAL **door**s to the Florence Baptistry; prompt on Gates of Paradise with "What general type of feature is that work?"]

[10] Ghiberti's Gates of Paradise are found in the Baptistry of this Italian city. Brunelleschi ended up designing the dome of a notable cathedral found in this capital of Tuscany.

ANSWER: **Florence**

[10] Ghiberti also sculpted an image of St. John the Baptist for this Florentine church. Other works in its fourteen exterior niches include Donatello's *St. Mark* and Nanni di Banco's *Four Crowned Martyrs*.

ANSWER: **Orsanmichele** ("ohr-sahn-mee-KEH-lay") [accept the **Kitchen Garden of St. Michael**] <Kanigicherla, Fine Arts - Other>

12. A leader with this surname was ordered by a Mendoza judge for testimony and charged with the disappearance of activist Hector Aldo Fagetti Gallego in 1976 during her presidency. For 10 points each:

[10] Give this surname. Supporters of a general with this surname were killed in the Ezeiza Massacre after he returned to Buenos Aires after an 18-year exile.

ANSWER: **Perón** [accept Juan **Perón**; accept Isabel **Perón**]

[10] This far-right death squad under the leadership of Jose Lopez Rega was active under Isabel Perón's rule. Despite its name, it targeted all government opponents, not just ones of a certain ideology.

ANSWER: **Argentine Anticommunist Alliance** [or **Alianza Anticomunista Argentina**; accept **Triple A**]

[10] The United States supported Operation Condor during this period of state terrorism in Argentina. During this period, right-wing death squads, including the Triple A, disappeared thousands of the Montoneros and other political opponents.

ANSWER: **Dirty War** [or **Guerra sucia**; accept **Época de los desaparecidos**] <Lee, History - World>

13. Rituals intended to create these creatures were studied by the anthropologist Wade Davis in the book *The Serpent and the Rainbow*. For 10 points each:

[10] Give these creatures whose name originates from Haitian folklore, in which malevolent sorcerers known as *bokors* may seek to create them.

ANSWER: **zombies**

[10] While zombies play no role in the standard practice of this Haitian religion, they nonetheless are popularly associated with it. Temples in this religion are run by *houngans* and *mambos*.

ANSWER: **Voodoo** [or **Vodun**]

[10] In most accounts of zombification from Haiti, such as that of Clarivius Narcisse ("nahr-SEES"), living people are "zombified" using poison taken from these animals.

ANSWER: **pufferfish** [or **puffers**, or **Tetraodontidae**; prompt on fish or pisces] <Kanigicherla, Belief - Religion>

14. One method of terraforming this planet involves sending CFC-filled rockets to spur an artificial greenhouse effect. For 10 points each:

[10] Name this red planet. The *Curiosity* rover was sent to this planet to determine its habitability.

ANSWER: **Mars**

[10] Another method for making Mars habitable utilizes Vika (“VEE-kuh”) generators which can be used to create oxygen using this ion. The presence of this ion in the toxic Martian soil was confirmed by *Curiosity*.

ANSWER: **perchlorate** [accept **ClO₄⁻**]

[10] NASA has theorized the introduction of an ecopoiesis machine to establish a natural ecosystem on Mars. The machine employs this phylum of photosynthetic bacteria which caused the Great Oxygenation Event.

ANSWER: **cyanobacteria** [or **blue-green algae**; do NOT accept or prompt on “algae”] <Jaishanker, Science - Astronomy>

15. *Description acceptable.* This character explains that Sancho Panza and Don Abbondio were able to live forever because “they had the fortune to find a fecundating matrix”. For 10 points each:

[10] Name this husband of Amalia who takes his stepdaughter home after meeting her in a brothel.

ANSWER: the **Father** [accept but do not reveal the **father** of *Six Characters in Search of an Author*]

[10] That father appears in this play, which ends with the Director exclaiming that “I’ve lost a whole day over [the title group]” after a mute boy shoots himself with a revolver.

ANSWER: **Six Characters in Search of an Author** [or **Sei personaggi in cerca d'autore**]

[10] This Italian playwright wrote *Six Characters in Search of an Author*.

ANSWER: Luigi **Pirandello** <Chen, Literature - European>

16. This city was nicknamed the “Sodom of the New World” during the Golden Age of Piracy. For 10 points each:

[10] Name this Jamaican city that was a haven for pirates until order was restored by Lieutenant Governor Henry Morgan. It fell from prominence after being devastated by a 1692 earthquake.

ANSWER: **Port Royal**

[10] This captain of the *Queen Anne’s Revenge* reportedly put lit fuses under his hat before going into battle. This pirate was killed by Robert Maynard in 1718, and had earlier blockaded the port of Charles Town.

ANSWER: **Blackbeard** [or Edward **Teach**; or Edward **Thatch**]

[10] Among the pirates who were active after the end of the Golden Age was this French privateer, who established the colony of Campeche on Galveston Island.

ANSWER: Jean **Lafitte** <Wang, History - Misc.>

17. The final size equation for two mixing groups has a unique solution if this quantity is greater than zero. For 10 points each:

[10] Name this quantity, the dominant eigenvalue for the next generation matrix. It is equal to the ratio of transmission rate beta and recovery rate gamma in the SIR model.

ANSWER: **R-naught** [or **R-sub-zero**; accept **basic reproduction number** or **ratio**; prompt on partial answer]

[10] A flow from the S to I compartment is defined as the parameter lambda or the “force” of this process. The second differential equation in the SIR model defines this process and “recovered” individuals are no longer susceptible to this process.

ANSWER: **infection** [or **infected**; accept **force of infection**]

[10] The aforementioned SIR model describes these events, which rely on the value of R-naught for their stability, like the ongoing one caused by COVID-19.

ANSWER: **epidemics** [or **pandemics**] <Calin, Science - Biology>

18. Answer some questions about death in Mexico. For 10 points each:

[10] This character escapes execution by betraying his fellow prisoner Gonzalo and later marries Gonzalo's sister Catalina. This newspaper tycoon reflects on his sordid life while on his deathbed in a novel by Carlos Fuentes.

ANSWER: Artemio Cruz [accept either underlined name]

[10] This title character of another Fuentes work is killed by the general Tomas Arroyo after he attempts to burn a set of documents. Later in the novel, this character's corpse is unearthed and "executed" by firing squad.

ANSWER: The Old Gringo [accept Ambrose Bierce]

[10] Juvencio cries "Tell them not to kill me!" while facing execution for the murder of Don Lupe in a short story by this other Mexican author, which is found in his collection *The Burning Plain*.

ANSWER: Juan Rulfo <Chen, Literature - World>

19. Stuart Davis made Cubist paintings of packages of these objects in works such as *Lucky Strike*. For 10 points each:

[10] Name these objects which are clenched in the teeth of a skeleton in a dark work by Vincent van Gogh.

ANSWER: cigarettes [or cigars]

[10] This work by Paul Serusier, which depicts the reflection of trees over the Aven River, was painted on the back of a cigar box and led to the formation of the group Les Nabis.

ANSWER: *The Talisman* [or *Le Talisman*]

[10] Richard Prince pioneered Appropriation art by rephotographing Marlboro ads but has since moved on to stealing images from this social media platform that is primarily used for sharing photos.

ANSWER: Instagram <Li, Fine Arts - Visual>

20. The loss of this king's extensive diaries has made it impossible to evaluate rumors that he had a sexual relationship with his aide-de-camp Paul von Thurn und Taxis. For 10 points each:

[10] Name this Wagner-obsessed king who built the Neuschwanstein Castle.

ANSWER: Ludwig II [prompt on partial answer]

[10] Ludwig II ruled this kingdom in Southern Germany from Munich.

ANSWER: Kingdom of Bavaria [or Königreich Bayern; or Kinereich Bayern]

[10] Riots broke out in Bavaria in 1844 after Ludwig I imposed a tax on this good. The 1516 Reinheitsgebot law imposed standards of purity for this good produced in Bavaria.

ANSWER: beer [or bier] <Kaashyap, History - European>