Missouri Open 2015 - An Attempt at a Critique of all Real Knowledge Questions by Will Alston, Itamar Naveh-Benjamin, Shan Kothari, Rohith Nagari, and Ewan Macaulay Packet 6

## **TOSSUPS**

- 1. These people's state collapsed after their ruler, a minister named Kürebir, was captured by the Kyrgyz. After meeting with Sogdian missionaries, the *khagan* of these people declared Manichaeism the state religion. The Tang dynasty allied with the khaganate named for these people against the Tibetan Empire. The name of these people was applied in the 20th century to the inhabitants of the (\*) Tarim Basin, whose ethnic conflict with the Han has dominated Xinjiang province. For 10 points, identify these Turkic inhabitants of Western China. ANSWER: <u>Uvghurs [prompt on Turks]</u>
- 2. Butterfly-shaped bipolar examples of these objects in the center of the Milky Way were shown to be aligned with the plane of the galaxy. An object named Calabash is an example of a "proto" stage in the formation of these objects that occurs after ultraviolet light from a core begins to ionize the surroundings. These objects' formation is the end result of the (\*) asymptotic giant branch, since they form when a giant of 0.8 to eight solar masses ejects its outermost layers. For 10 points, identify these clouds of gas and dust, named for resembling objects like Uranus.

ANSWER: <u>planetary nebula</u>e [accept proto<u>planetary nebula</u>e; prompt on just <u>nebula</u>e or <u>emission nebula</u>e; don't prompt on "molecular clouds" or "protoplanetary disc" since those are different things]

- 3. Pierre Clastres denied that this concept represented the endpoint of human evolution in a series of essays examining how South American groups challenge it. This concept is said to be the will of God on Earth in *Philosophy of Right*, a critique of which by Marx distinguishes this concept from (\*) civil society. In most modern cases, *this* derives legitimacy from rational-legal authority according to Max Weber, who defined it as an entity with a monopoly on the use of force. For 10 points, identify this entity which can be sovereign over territory. ANSWER: the <u>state</u> [accept *Society Against the <u>State</u>*]
- 4. This is the larger of the two countries that founded the political bloc ALBA in 2004. The murder of former Miss Universe contestant Monica Spear kicked off protests in this country in early 2014. This country's official exchange rate against the U.S. dollar is over (\*) ten times below the black market rate. Huge shortages of basic goods like toilet paper exist in this country, where opposition leader Leopoldo López was imprisoned by the Bolivarian government. Nicolas Maduro leads for 10 points what country formerly ruled by Hugo Chávez? ANSWER: (Bolivarian Republic of) Venezuela [or República Bolivariana de Venezuela]
- 5. This artist claimed that a "cosmic dream" inspired one of his crucifixion scenes based on a friar's sketch. This artist placed a depiction of San Narciso in a painting whose bottom features an urchin and a self-portrait as a monk bearing a cross, an homage to a theory denying the Italian identity of a certain (\*) explorer. This artist included a giant fish in a re-imagining of an earlier painting that uses a Catalan bay as the background for a scene with a white "monster" and melting clocks. For 10 points, name this artist of *The Persistence of Memory*. ANSWER: Salvador **Dalí**
- 6. In one of this author's stories, a young boy desperately offers to recite a Hail Mary for his father as his father beats him for letting the fire burn out. This author appears as a "man who wishes his total indifference to public notice to be universally recognized" in Tom Stoppard's play (\*) Travesties. "Counterparts" and "An Encounter" appear in a collection by this author, which includes a story about the annual Morkan dance attended by Professor Gabriel Conroy. "The Dead" concludes for 10 points what Irish author's collection *Dubliners*? ANSWER: James **Joyce**

7. This culture used a syllabary with 87 characters that was complemented by 100 ideograms with no phonetic value. A king or tribal leader in this culture was called a *wanax*. This culture originated the title *potnia* given to its great mother goddess, constructed huge (\*) beehive-shaped tombs called *tholoi*, and used the Linear B writing system. This culture probably originated the deities Hera and Artemis and ended with the Dorian invasion, beginning the Greek Dark Ages. For 10 points, name this ancient city legendarily ruled by Atreus and Agamemnon.

ANSWER: <u>Mycenae</u> [or <u>Mukana</u>; or <u>Mycenaean</u> Greece; or equivalents; prompt on Ancient <u>Greece</u> or Dark Age <u>Greece</u> or anything involving <u>Greece</u>]

- 8. John Ciardi produced a famous translation of this author's best-known work, which drew heavily from Islamic philosophy according to the scholar Miguel Palacios. In one work by this author, the final *canzone* is left unfinished because it is interrupted by the death of the (\*) author's lover. In another work, this author is attacked by a lion, a leopard, and a she-wolf before being rescued by his eventual guide, a Roman poet. For 10 points, name this author who helped establish the Tuscan dialect with his *La Vita Nuova* and *The Divine Comedy*. ANSWER: **Dante** degli **Alighieri** [accept either underlined part; accept "Durante degli **Alighieri**"]
- 9. Robinson reacted a dicarboxylic acid derivative of this compound with methylamine and succinaldehyde to form tropinone. Reactions can be kept at -78° Celsius by a bath of dry ice in this compound. Oxygen reacts with cumene to give phenol *and this compound*. This compound is the most common solvent for a reaction which uses (\*) chromic acid to oxidise alcohols, the Jones oxidation. Lab glassware is often rinsed with this polar aprotic solvent, which can be formed by the oxidation of isopropanol. For 10 points, name this simplest ketone. ANSWER: acetone
- 10. This man names a system that categorizes neurons based on axon length. A structure named for him is innervated by Ib sensory fibers and detects changes in muscle tension; those are his namesake tendon organs. He used silver chromate to stain neurons, and San Ramon y Cajal (\*) disproved this man's reticulum theory of the nervous system. A structure named for him is the site of O-linked glycosylation and is comprised of cisternae. For 10 points, identify this Italian, the namesake of an apparatus that packages and processes proteins.

  ANSWER: Camillo Golgi
- 11. This philosopher advocated encouraging belief in spirits that reward good and punish evil as part of his doctrine of Elucidating Ghosts. He ignored traditional morality as a source of virtue, proposing as an alternative the standard of "benefit" for all. A school of disputation that taught "a white horse is not a horse" called the (\*) School of Names was based on this man's teachings, which advocated a benevolent, impartial authoritarianism. For 10 points, name this Chinese Warring States period philosopher who preached universal love. ANSWER: Mozi [or Master Mo]
- 12. One individual who helped create this sculpture was nicknamed "Mademoiselle Victoire," and helped produce the central figure's face. This work's eventual artist was recommended to its commissioner by Denis Diderot. The heaviest monolith ever moved by humans forms the (\*) base of this sculpture, and is known as the Thunder Stone. This work's central figure extends his right arm towards the Neva River. Etienne Falconet created for 10 points what equestrian statue of Peter the Great, which inspired a Pushkin poem of the same name? ANSWER: The *Bronze Horseman*
- 13. The photosynthesis to respiration ratio of these ecosystems first increases, then decreases according to a "continuum concept" of these ecosystems that explains how changes in the fine-to-coarse organic matter ratio affect shredders, collectors, and grazers. The (\*) hellbender and the now-extinct baiji could be found in these lotic ecosystems, whose productivity may be described by the flood pulse concept. Their oxygen concentrations vary with pH and turbidity, and their edges are riparian zones. For 10 points, name these ecosystems with flowing water, like the Mississippi.

ANSWER: <u>river</u>s [or <u>stream</u>s; accept <u>lotic</u> ecosystems before mentioned]

- 14. An iconic version of a text describing rituals during these events was created in 1932 by Maxwell House. Hands are washed twice during this event, the first instance of which occurs without blessing and is known as *ur'chatz*. Children are (\*) encouraged to "steal" an object hidden during this event called the *afikoman*. The question "why is this night different from all other nights?" is asked during this event, as prescribed by the Haggadah. Lots of *matzah* gets eaten during for 10 points what ritual meal that kicks off Passover?

  ANSWER: (Passover) seders [prompt on Passover or Pesakh]
- 15. A war veteran in this novel who has trouble eating at Chinese restaurants assaults the protagonist, but is held off with a tire iron. Later, that character threatens the protagonist while fishing atop an icy lake. This novel's protagonist purchases milk from a dairy farm just to watch Faunia (\*) Farley milk cows. Delphine Roux is delighted when the protagonist resigns from his post at Athena College after calling a pair of his students "spooks." For 10 points Nathan Zuckerman narrates what novel about the passing professor Coleman Silk, written by Philip Roth? ANSWER: The Human Stain
- 16. This state's law code was based on the Novocanon of Saint Sava. A noble from this state named Vuk was said to be a traitor because his army survived a battle at which a knight from this state snuck into the enemy ruler's tent and killed him. This state was governed by a code named for its "Mighty" king (\*) Stefan Dušan [DOO-shan]. A knight from this state assassinated Sultan Murad I during a battle in which its troops were led by Prince Lazar at Kosovo Field. For 10 points, name this medieval polity which included the city of Belgrade.

  ANSWER: Serbia [or Serbian Kingdom; or Serbian Empire; or Serbian Despotate; or Srpska]
- 17. This character lends his name to the treadmill aboard the International Space Station. In a speech, this character claimed that people have more nerve endings in their gut than in their head. Shortly after gaining immortality, this character discovered that Abraham Lincoln is a unicorn. This husband of (\*) Lorraine disregards fact when ascertaining the "truthiness" of arguments, as in his book *I Am America (And So Can Youl)* For 10 points, name this alter-ego of the host of a Report ["re-POR"] that aired on Comedy Central. ANSWER: Dr. Stephen T. Colbert, D. F. A.
- 18. Disease-free bees are often imported from this state's Kenswick Island, part of the Whitsunday Islands once inhabited by the Ngaro people. In this state, the Surfers Paradise district brings tourists to the city of Gold Coast. Tin Can bay lies south of this state's Great Sandy Strait, which separates the mainland from (\*) Fraser Island. The Torres Strait lies north of this state's Cape York Peninsula, which is east of the Gulf of Carpentaria. The Great Barrier reef brings revenue to for 10 points what northwestern state of Australia with capital Brisbane? ANSWER: Queensland [prompt on Australia]
- 19. This author created a folk band player who dies of a heart attack after hearing his son is riding motorcycles. The professor Voltaire hosts a gathering of poets in a story by this author that discusses his inability to translate the word *litost*. He created a character who writes (\*) "optimism is the opium of the people" on a postcard as well as a novel consisting of seven unrelated vignettes. *The Joke* and *The Book of Laughter and Forgetting* were written by for 10 points what author, who wrote about Tomas and Tereza in *The Unbearable Lightness of Being?* ANSWER: Milan Kundera
- 20. Jacques Ibert's difficult D-major concerto for this instrument was written for Marcel Moyse. The motif [read slowly] F-E-F-sharp appears in a solo piece for this instrument, which was played by a 20th-century French performer who owned one made of solid gold. A platinum one is called for by (\*) Edgar Varèse's Density 21.5. Jean-Pierre Rampal played this instrument. Claude Debussy's Prelude to the Afternoon of a Faun opens with a tritone-spanning solo by for 10 points what relative of the piccolo?

  ANSWER: flute
- 21. This scientist and Joseph Le Bel independently derived that a compound with n chiral centers has 2<sup>n</sup> stereoisomers and that saturated carbon atoms adopted a tetrahedral geometry. The derivative of the logarithm of the equilibrium constant is equal *[read slowly]* to the enthalpy change over R times temperature squared according to this scientist's equation. A quantity named for him is exactly one (\*) for substances which do not associate or dissociate with each other in solution. A factor symbolized *i* describing the effects of solutes on colligative properties is named after for 10 points what Dutch physicist?

  ANSWER: Jacob Henricus <u>van 't Hoff</u>

22. In this novel, a debt collector and a debtor both commit suicide over a debt of one pound. This novel's title character uses a leaf to remove a necklace from his future wife's throat that prevented her from speaking. That wife gives birth to ZURRJIR through her thumb after being rescued from a skull that (\*) rented limbs to appear whole. At its end, the protagonist receives a wish-granting egg from his deceased servant after reaching Deads Town. For 10 points, name this novel chronicling a god's search for his tapster, written by Amos Tutuola.

ANSWER: The **Palm-Wine Drinkard** 

23. One figure spectates this event after being summoned by Iris in the guise of Laodice. Prior to this event, Agamemnon sends Talthybius to retrieve a lamb to sacrifice to Zeus. One deity intervenes during this event by breaking the strap on one of the participants' helmets. One of its (\*) participants, a "beloved of Ares," takes part in this event in the hopes of winning back the woman whose face "launched a thousand ships." For 10 points, identify this duel in Book III of the *Iliad* between the past and present lovers of Helen.

ANSWER: the <u>duel</u> between <u>Menelaus</u> and <u>Paris</u> [both names are required; accept equivalents for "duel"; generously prompt on "fighting in the Trojan War"]

24. Julius Rosenwald's huge 1912 donation to this institution let its founder stop his frequent fundraising tours. This institution was founded by George W. Campbell and Lewis Adams, who requested a teacher from the normal school at Hampton to help run it. A 100-acre (\*) plantation was purchased to allow for work and study at this industrially oriented institution, which hired George Washington Carver as a professor. A group of World War II airmen was named after - for 10 points - what black educational institution founded by Booker T. Washington?

ANSWER: <u>Tuskegee</u> Institute [or <u>Tuskegee</u> University]

## **BONUSES**

1. At the end of the story in which it appears, this entity declares, "let there be light!" For 10 points each:

[10] Name this entity that, while growing increasingly sophisticated throughout the story, can only respond with, "INSUFFICIENT DATA FOR A MEANINGFUL ANSWER" after being asked the title query.

ANSWER: the <u>AC</u> [accept any of its names: <u>Microvac</u> or Planetary <u>AC</u> or Galactic <u>AC</u> or Universal <u>AC</u> or Cosmic <u>AC</u>; I guess you can accept <u>analog computer</u>; prompt on <u>computer</u>]

[10] The AC finally discovers how to reverse entropy in this author's short story "The Last Question." This biochemist also penned the *Foundation* series and *I, Robot*.

ANSWER: Isaac **Asimov** 

[10] Asimov also wrote a short story set on the planet of Lagash where society collapses every two thousand years when this condition occurs.

ANSWER: <u>night</u>fall [accept "there is total <u>darkness</u>" or equivalents]

2. You've bought into North Korea's plan to boost tourism. For 10 points each:

[10] On your trip, you pass through these mountains while entering the country. Since it's located just south of the Yalu river, this range's name literally means "South of the River", a name it shares with a district in South Korea.

ANSWER: **Gangnam** mountains [or **Kangnam** mountains]

[10] Unlike North Korean peasants, you're allowed to freely cross south into the Republic of Korea. Doing so involves crossing this carefully guarded boundary zone along the 38th parallel.

ANSWER: **DMZ** [or the **demilitarized** zone]

[10] If you're a history buff, you might visit the site of a decisive 1592 battle located along this river, which flows into the Han River after crossing the DMZ.

ANSWER: **Imjin** River [or **Rimjin** River]

3. This ruler had a legendary love affair with the slave girl Anarkali. For 10 points each:

[10] Identify this ruler, whose tolerance and welcoming of religious debate led Sir Thomas Roe to label him an atheist. He attempted to forge an alliance with the Ottomans against Abbas I.

ANSWER: **Jahangir** 

[10] This less tolerant ruler of the same empire reinstated the *jizya* tax on his subjects and also intolerantly executed Guru Tegh Bahadur. He was called "Alamgir" or "world-seizer" for his widespread conquests.

ANSWER: Aurangzeb Alamgir

[10] Both Jahangir and Aurangzeb were rulers of this Indian empire founded by Babur.

ANSWER: Mughal empire

4. Receptors for them in solution often use urea or amide-based motifs. For 10 points each:

[10] Name these substances such as chloride and bromide, which are contrasted with positively charged cations.

ANSWER: anions

[10] This series, named for a German chemist, ranks anions in order of hydrophilicity. Also known as the lyotropic series, it was discovered while investigating their ability to salt out proteins.

ANSWER: **Hofmeister** Series

[10] This trigonal planar anion appears near the bottom of the Hofmeister series. This anion is found with a potassium counterion in saltpeter.

ANSWER: Nitrate [accept NO3=]

5. This work was written after its author retired to a farm in South Downs, Sussex. For 10 points each:

[10] Identify this fictional book, self-described as its author's "magnum opus" in the short story "His Last Bow." In that story, a copy of this book is given to a German spy in place of a set of naval signals.

ANSWER: Practical Handbook of <u>Bee</u> Culture, with Some Observations upon the Segregation of the Queen [accept anything mentioning <u>bee</u>s, like "Sherlock Holmes's <u>bee</u> book"]

[10] Sherlock Holmes and his Handbook of Bee Culture were created by this British writer.

ANSWER: Sir Arthur Ignatius Conan Dovle

[10] The plot of this second Sherlock Holmes novel is set into motion by a client's report of her missing father and of a mysterious set of pearls she received in the mail.

ANSWER: The <u>Sign of</u> the <u>Four</u>

6. The orchard of fruit in this painting was described as for "the dainty feast of the soul." For 10 points each:

[10] Identify this painting which illustrates a quote from Revelation 3:20. It depicts a crowned Jesus knocking on a door without handles.

ANSWER: The *Light of the World* 

[10] The painter of *The Light of the World*, William Holman Hunt, was a member of this group of artists that rejected the influence of a specific Italian painter.

ANSWER: **Pre-Raphaelite** Brotherhood [or **PRB**]

[10] This Pre-Raphaelite artist of the *Manchester Murals* was inspired by the emigration of his friend Thomas Woolner to create a painting of a couple in a boat called *The Last of England*.

ANSWER: Ford Madox **Brown** 

7. This author shared the 1966 Nobel Prize in Literature with poet Nelly Sachs. For 10 points each:

[10] Name this author of *In the Heart of the Seas* and *A Simple Story*. In another novel, he wrote about Frummet, whose rooster leads her to a treasure trove large enough to pay all three of her daughters' dowries.

ANSWER: Shmuel Yosef Agnon

[10] Agnon spent his later years living in this country, whose other Hebrew-language authors include Amos Oz and Etgar Keret.

ANSWER: State of Israel

[10] Etgar Keret titled a short story collection for someone who drives these objects Who Wanted To Be God. One of these objects is forced to stop because of a snowstorm in a William Inge play.

ANSWER: bus [accept The Bus Driver Who Wanted to Be God; accept Bus Stop]

8. A theorem named for this scientist states that any sufficiently smooth rapidly-decaying vector field can be expressed as the sum of solenoidal and irrotational components. For 10 points each:

[10] Name this scientist who also developed a set of coils which give a highly uniform magnetic field.

ANSWER: Hermann von **Helmholtz** 

[10] These fields are examples of irrotational fields since they are curl-free. Gauss' law relates their divergence to the charge density and the vacuum permittivity.

ANSWER: **electric** fields

[10] This quantity, which is equal to the cross product of the electric and magnetic field vectors, represents the directional energy flux density of an electromagnetic field.

ANSWER: **Poynting** vector

9. This action enabled widespread adoption of the hub-and-spoke strategy. For 10 points each:

[10] Identify this legislative action, largely beneficial to consumers, which was championed by Ted Kennedy and the man who oversaw its implementation, Alfred E. Kahn.

ANSWER: <u>deregulation</u> of the <u>airline</u> industry [accept logical equivalents; accept "passage of the <u>Airline</u> <u>Deregulation</u> Act"]

[10] The deregulation of the airline industry occurred during the term of this President, who was less successful in trying to get American hostages on airplanes out of Iran.

ANSWER: Jimmy **Carter** [or James Earl **Carter**, Jr.]

[10] Jimmy Carter advocated other reforms, such as a windfall profits tax, in a speech describing a "crisis of confidence" usually titled for this word for general unease.

ANSWER: malaise [accept Malaise speech]

10. Beethoven admired this man as his favorite contemporary composer. For 10 points each:

[10] Identify this Italian composer, who became director of the Paris Conservatoire, where he came into conflict with a young Hector Berlioz. His best known non-opera composition is his Requiem in C minor.

ANSWER: Luigi Cherubini

[10] Cherubini composed a *Missa solene* for a prince from this prominent family of music patrons. A visit to the estate of this family provided the occasion for the composition of the "Farewell" symphony.

ANSWER: House of **Esterházy** [or **Esterházy** family]

[10] The Esterházys most famously patronized this composer, who created the "Farewell" and London symphonies.

ANSWER: Franz Joseph Haydn

- 11. The artist of this song describes how the titular location made him "an angel on angel dust." and it was mashed up with Radioactive at the 2014 VMAs. For 10 points each:
- [10] Name this song that begins: "If Pirus and Crips all got along / they'd probably gun me down by the end of the song," before Schoolboy Q yells "YAWK YAWK YAWK."

ANSWER: m.A.A.d city

[10] m.A.A.d city appears on the album *good kid, m.A.A.d city* by this artist, whose other hits include "Swimming Pools" and "Bitch Don't Kill My Vibe."

ANSWER: Kendrick Lamar Duckworth [accept any underlined part]

[10] Mortal Man, the last track on Kendrick's latest album, *To Pimp a Butterfly*, ends with a mock-interview of this other artist, who describes how "poor people are going to open up the whole world and swallow up the rich."

ANSWER: **Tupac Shakur** [accept either]

12. This object is detailed in a famous ekphrasis in Book 18 of the Iliad. For 10 points each:

[10] Name this object decorated with nine layers of images, including contrasting images of a city at war and a city at peace.

ANSWER: the **shield** of **Achilles** [prompt on partial answer; prompt on "armor of Achilles"]

[10] The shield of Achilles was crafted by this lame god of the forge at the behest of Thetis.

ANSWER: **Hephaestus** 

[10] The fifth layer of imagery adorning the shield of Achilles depicts one of these places. The old man Battos was laboring in this type of location when he spotted Hermes stealing the cattle of Apollo.

ANSWER: a <u>vineyard</u> [accept "a field of <u>grapes</u>"; prompt on "field" or "farm"]

13. The Bürgerliches Gesetzbuch drew heavily on this historian's study of the Roman constitution. For 10 points each:

[10] Identify this German scholar, the author of the monumental History of Rome.

ANSWER: Theodor **Mommsen** 

[10] Mommsen was a primary influence on Alfred Mahan, who wrote a history of the importance of this kind of power. His work had an immediate impact and promoted a major arms race during the Belle Epoque.

ANSWER: <u>sea</u> power [or <u>naval</u> power; accept The Influence of <u>Sea</u> Power on History]

[10] Mommsen opposed discrimination against this religious group and proposed to culturally assimilate them into Germany. Karl Marx, whose family originally belonged to this group, wrote about the "Question" concerning them.

ANSWER: **Jew**s [or **Juden**]

14. Answer some questions about the illustrious Kruskal brothers, for 10 points each:

[10] With W. Allen Wallis, William Kruskal developed a nonparametric version of this technique developed by Ronald Fisher. This method uses F-tests to consider whether three or more means are unequal.

ANSWER: **ANOVA** [or **analysis of variance**]

[10] The inventor of Kruskal's algorithm, Joseph Kruskal, pioneered multidimensional scaling, which takes an input matrix of these values between sample points. The Euclidean function of this kind, applied to two points, gives the length of the line segment connecting them.

ANSWER: distances

[10] Martin Kruskal worked with Norman Zabusky to develop the theory of solitons by studying this doubly eponymous non-linear PDE used to model waves in shallow water.

ANSWER: Korteweg-de Vries equation [or KdV equation]

- 15. This novel ends in mid-sentence as a Prince delivers a speech warning of a dark future looming ahead. For 10 points each:
- [10] Name this novel, whose protagonist is exonerated due to the shrewdness of his lawyer, Murazov.

ANSWER: **Dead Souls** 

[10] Dead Souls centers on this middle-aged traveler's attempts to purchase the deeds of deceased serfs as part of a getrich-quick scheme.

ANSWER: Pavel Ivanovitch Chichikov

[10] This Russian author wrote *Dead Souls*, along with the stories "The Nose" and "The Overcoat."

ANSWER: Nikolai Vasilievich Gogol

16. Answer the following about Seventh-Day Adventists, for 10 points each.

[10] Seventh-Day Adventists are named for observing this day of the week, roughly coinciding with the original Sabbath, as a day of rest; most other Christians rest on Sunday instead.

ANSWER: Saturday

[10] A couple with this surname were prominent early leaders of the Seventh-Day Adventists; Ellen wrote *Conflict of the Ages* and James started the publication *The Present Truth*, now the *Adventist Review*.

ANSWER: White

[10] James White led the relocation of Seventh Day Adventists to this town, where fellow Adventist Sojourner Truth joined them in 1857.

ANSWER: Battle Creek, Michigan

17. In 1819, this man was fired from the University of Prague for his opposition to militarism. For 10 points each:

[10] Identify this Bohemian intellectual who attempted to create a foundation for all science in a book titled Wissenschaftslehre. He wrote the logic treatise Paradoxes of the Infinite.

ANSWER: Bernard Bolzano

[10] Bolzano preferred using "has" instead of to "to be" as this kind of word linking a subject with a predicate.

ANSWER: copula

[10] Bolzano is best known for a theorem co-named with Karl Weierstrass stating that every bounded sequence has a subsequence with this property, which the harmonic series lacks. This property means that a limit exists.

ANSWER: it <u>converge</u>s [accept forms of the word <u>converge</u> like <u>convergence</u>, <u>convergent</u>, etc.]

18. This term, somewhat similarly to "salad bowl", describes a policy contrasting with assimilation. For 10 points each:

[10] Give this two-word term for multiculturalism, most commonly employed in Canada, where the term was coined by John Murray Gibbon in 1938.

ANSWER: cultural mosaic

[10] Spokespeople for this left-wing party in Canada frequently deliver endorsements of the cultural mosaic. This party, which got demolished in the recent Canadian elections, is led by Thomas Mulcair.

ANSWER: **N**ew **D**emocratic **P**arty [**NDP**]

[10] The NDP has the second-most seats in the partisan legislature of this Canadian territory, which borders Alaska and is named for a river.

ANSWER: Yukon Territory

19. Brainbow uses this enzyme to cause different fluorescent proteins to be expressed in neighboring neurons. For 10 points each:

[10] Name this tyrosine recombinase derived from the P1 bacteriophage. It causes site-specific recombination at LoxP sites, allowing gene deletion, translocation, or inversion.

ANSWER: **Cre** recombinase

[10] Cre-Lox recombination has been most used in this small rodent model organism, which Rudolf Jaenisch made the first animal to be genetically modified. Many lines of them are bred at Jackson Laboratory.

ANSWER: house <u>mouse</u> [or <u>Mus musculus</u>; or <u>Mus</u>]

[10] Like other temperate phages, the P1 phage is capable of undergoing both of these two reproductive cycles. In one, the viral genome is incorporated into the host, while in the other, the virus replicates separately.

ANSWER: <u>lytic</u> cycle and <u>lysogenic</u> cycle [both required; prompt on partial answer; accept word forms like <u>lysis</u> or <u>lysogen</u>]

20. This philosopher is well-known for his original reading of Wittgenstein. For 10 points each:

[10] Identify this philosopher, who used the example of "Hesperus = Phosphorus" as an examples of rigid designators that are necessarily true in book compiled from a series of three lectures at Princeton.

ANSWER: Saul Kripke

[10] The rigid designators identified by Saul Kripke in *Naming and Necessity* identify the same objects in all of these modal entities, which do not necessarily exist. Leibniz claimed that we lived in the "best of" all of them.

ANSWER: possible worlds

[10] This theory of names, proposed by Kripke as an alternative to the earlier descriptivist theory of names, identifies names as referents that become rigid designators through an "original baptism."

ANSWER: causal theory of names

- 21. Thelonious Monk made his first studio recordings with this musician's quartet. For 10 points each:
- [10] Name this jazz musician, most famous for his recording of the song "Body and Soul."

ANSWER: Coleman Hawkins [or Hawk; or Bean]

[10] Hawkins's recording of "Body and Soul" is sometimes considered to have begun this style of fast jazz named for scat syllables, which was characterized by complex improvisation and "substituted" chords.

ANSWER: bebop

[10] Hawkins popularized this instrument among early jazz performers. John Coltrane and Lester Young were both players of this instrument.

ANSWER: (tenor) saxophone

- 22. This institution pioneered "window guidance" to steer the growth of private credit. For 10 points each:
- [10] Name this institution, which complemented MITI's policy of industrial planning by engaging in "over-loaning" to industrial conglomerates and cities during a postwar boom.

ANSWER: <u>Bank of Japan</u> [or <u>Nippon Ginko</u>; prompt <u>bank</u> or <u>ginko</u> or answers like "Japanese central bank", but the exact name is required]

[10] Japan's postwar boom is probably best exemplified by growth in this industry of companies like Toyota.

ANSWER: <u>car</u> industry [accept any reasonable equivalent like <u>automobile</u> industry]

[10] The "Flying Geese Paradigm" stated that Japan would lead Asia in economic catch-up to the west. Behind were South Korea, Hong Kong, Singapore, and Taiwan, called the four *these animals* of Asia until the 1997 crisis.

ANSWER: tigers (for protest notes, dragons aren't animals so that shouldn't be accepted)

- 23. An early example of this phenomenon is the distinguishment of Vulgar and Classical Latin. For 10 points each:
- [10] Identify this phenomenon in which a single community employs two different dialects or languages. Typically, a vernacular is used for most conversation and a codified language is used formally.

ANSWER: diglossia [do not accept "code switching" or "bilingualism"]

[10] An example of diglossia is the distinguishing of the colloquial Moroccan dialect of this language with its Modern Standard variety, which is standard in media use.

ANSWER: Arabic

[10] Modern Standard Arabic is considered a dialect that possesses this characteristic, since it's spoken primarily in formal situations. Similarly, rhotic speech - as opposed to local accents - has this characteristic in NYC.

ANSWER: prestige

- 24. This colony was mainly settled in its early years by convicts in penal colonies. For 10 points each:
- [10] Identify this modern-day country, which was settled by prospectors during a gold rush in Victoria.

ANSWER: Australia

[10] Australia was the first colony of the British empire to introduce this practice, designed to prevent intimidation at the polls; it's often named after Australia today.

ANSWER: secret ballot [or secret voting; prompt on Australian ballot or ballot or voting]

[10] This city in South Australia established the country's first municipal council in 1840. People heading to mining boom towns at Kapunda and Burra went through this city.

ANSWER: Adelaide