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Tossups

1. Admiral Menas advised one person to kill some members of this group during a dinner celebrating the Pact of Misenum. One member of this group later created the government office of “Prefect of the Watch” to supervise firefighters and police in one city. One member of this group held a victory celebration while dressed as Dionysus. According to Appian (AH-pee-un), Sextus (*) Pompey attempted to use pirate raids against subjects of this group in order to demand inclusion. One member of this group issued the Donations of Alexandria, which included giving Syria and Cilicia (suh-LEE-see-uh) to Ptolemy Philadelphus and Parthia to Alexander Helios. This group was established by the *Lex Titia*, which called for a “three-man commission for the purpose of restoring the constitution of the republic.” For 10 points, name this alliance between Marcus Lepidus, Marcus Antonius, and Caesar Augustus.

ANSWER: Second Triumvirate [prompt on “triumvirate”]

2. An entry in this collection includes a character who says that if she saw a girl in a miniskirt she would have her arrested and repeatedly declares that the moon landing was “splendid!” In another story in this collection, a character feels guilty over ripping out a magazine picture of a woman and cries with his wife “for the things they now knew” after a power outage. This collection contains a story in which a stolen sink causes the firing of Boori Ma and a story in which (*) Dev whispers the title word to Miranda in the Mapparium. This collection, which includes “The Third and Final Continent” and “When Mr. Pirzada Came to Dine,” is titled for a story in which Mrs. Das carelessly drops puffed rice, attracting monkeys that attack her son Bobby, and confesses her adultery to her tour guide. “Sexy” and a story about Mr. Kapasi, who holds the titular translation job at a doctor’s office, appear in, for 10 points, which first short story collection by Jhumpa Lahiri?

ANSWER: Interpreter of Maladies

3. One god in this myth system was a multicolored animal herder who was associated with the constellation Lyra. One man in this myth system had a name meaning “salt,” and could shoot down hills with his slingshot; that man’s sister taught women how to spin thread, and his father was sometimes described as a god who travelled the earth disguised as a beggar while working miracles, and whose name means “sea foam.” The supreme god in this mythological system used a (*) flood to destroy a group of idiots made from giant rocks, and he was later surpassed in importance by his son, a sun god who told his children to settle where a golden staff sank into the earth. For 10 points, name this mythological system whose gods included Viracocha (VEER-uh-KOH-chuh) and Inti, which were worshiped at sites like Cuzco.

ANSWER: Inca mythology

4. An important conjecture about these things posited by Lusin was proven by Lennart Carlson. A constant named partly for Wilbraham gives the degree to which these things overshoot at a jump discontinuity. In spinal MR imaging, inaccuracies in these entities can simulate the appearance of syringomyelia (sir-IN-go-my-EEL-ee-uh); this inaccuracy can be reduced by adding Lanczos sigma factors and is a “ringing” known as the (*) Gibbs phenomenon. These entities can be evaluated at a certain point when their function is absolutely integrable, bounded, and has a finite number of extrema and discontinuities. Their coefficients can be found by finding the inner product of a function and an element of an orthonormal basis; this method depends on the orthogonality of trigonometric functions. For 10 points, name this summation of a function as a series of sine and cosine waves.

ANSWER: Fourier series

5. This author wrote a novel whose protagonist suspects a dubious medical advisor named Rainaldi of conspiring to poison him with laburnum seeds. In that novel by this author, Philip Ashley suspects the title character of complicity in the death of his father Ambrose. In another of this author’s novels, a vicar draws himself as a wolf preying on a congregation of sheep; that man, Francis Davey, is revealed to be the leader of a gang of (*) ship-sinking “wreckers” by Mary Yellan. *My Cousin Rachel* is among the novels this author set in her native Cornwall. Her most famous novel features a woman who causes a commotion at a party by accidentally dressing as her husband’s ancestor and is tormented by Mrs. Danvers. For 10 points, name this author of *Jamaica Inn* who used the line “Last night I dreamt I went to Manderley again” to open her novel *Rebecca*.

ANSWER: Daphne du Maurier

6. This character once dressed as a woman in order to “marry” an earthquake-sensing monster named Zoonama. The Supreme God of Time cons this character into becoming her assistant, a position he holds during a crisis caused by the Demon God Demigra (**duh-MEE-gruh**). One object owned by this character was given to him by Tapion. As a child, a version of this character wins the junior division of the 25th World Martial Arts Tournament. At a later age, this man often escapes from the window of his office as president of (*) Capsule Corp. In his first appearance, this older brother of Bulla initially suppresses his power level to 5 before killing King Cold and cutting a mechanically-resurrected Frieza in half; after that, he tells another character of the threat of Dr. Gero and the Androids, who had devastated the world in his future. For 10 points, name this son of Bulma and Vegeta and best friend of Goten from *Dragon Ball*.

ANSWER: Trunks Briefs [prompt on “Briefs”; accept Future Trunks or Kid Trunks]

7. This man dispatched the *USS Alaska* to end the Grebo-Liberian War and launched an expedition under John Rodgers to open trade with Korea that ended up firing on Korean forts in the Gangwha (**gung-WAH**) Affair. Columbus Alexander had evidence taken from a safe in the Washington district attorney's office to discredit testimony during this man's administration, which also saw the suspension of habeas corpus in several South Carolina counties. This man's Secretary of War, William (*) Belknap, took kickbacks from traders at Fort Sill, and Carl Schurz lead a breakaway faction of members of this man's party. His Secretary of State, Hamilton Fish, negotiated the Treaty of Washington to settle the *Alabama* Claims in 1870. For 10 points, identify this American president who succeeded Andrew Johnson and earned the nickname “Unconditional Surrender” during the Civil War.

ANSWER: Ulysses S. Grant

8. One software package for this technique uses the XCORR (**ECKS-core**) score to determine the strength of a match; that software package is SEQUEST (**SEE-quest**). The Mattauch-Herzog (**MA-tuck HURT-zog**) geometry is used alongside a spark source in one type of this technique, which is an example of a sector instrument. One method of preparing samples for this technique uses a matrix of sinapinic acid which protonates the sample in response to a laser; that method is (*) MALDI (**MAUL-dee**). This technique yields a peak at M+1 for molecules containing carbon 13, and molecules containing bromine show a doublet in this technique. The base peak represents the most abundant species in this analytical technique, while the molecular ion is most likely the ion with the greatest m-z value. For 10 points, name this analytical technique in which a molecule is ionized and separated by its mass to charge ratio.

ANSWER: mass spectrometry [or mass spec, accept more specific answers like tandem mass spec]

9. On one day of this holiday, people typically greet each other with pitka tava and the entire book of Psalms is read. On a holiday following this one, it is a Chabad (**shah-BAHD**) custom to end the service with "And Jacob went on his way." The last day of this holiday has a ritual commemorating the water libation. Seven “exalted guests” representing seven shepherds of Israel, called the (*) ushpizin (**ush-PEE-zin**), are invited on this holiday. Samaritans commemorate this holiday by building a trellis and going to Mount Gezerim (**GEZ-uh-reem**), and it is the first pilgrimage festival after Rosh Hashanah. This holiday is followed by a day on which Geshem is recited, Shemini Atzeret (**sheh-MEE-nee aht-ZAIR-et**). The Lulav and Etrog, two of the four species, are waved on this holiday, and the structure used on this holiday notably does not have to permit starlight. For 10 points, name this festival of booths.

ANSWER: Sukkot [accept Sukkos; or Feast of Booths; or Feast of Ingathering; or Feast of Tabernacles]

10. This film's protagonist compares a certain song to “a bird of rarest spun heaven metal or like silvery wine flowing in a space ship.” This film's soundtrack greatly incorporates the Moog Synthesizer and was completed by Wendy Carlos. This film's protagonist is tortured when two policemen repeatedly drown him in an animal trough. Its main character jumps from a window to kill himself after the crippled writer Dolin overhears him (*) singing while bathing. Its main character, who has sex with two prostitutes as a fast version of the *William Tell Overture* is playing, visits a bar where milk shoots out from the nipples of a statue. This film's protagonist rapes a woman while singing *Singin' in the Rain*, and later volunteers to undergo the Ludovico Technique. For 10 points, name this Stanley Kubrick film about the psychopathic Alex.

ANSWER: A Clockwork Orange

11. This composer's Symphony No. 4 includes a prominent violin solo in the middle section of its second movement, which is later reused in the scherzo as the theme of the trio section. In his Symphony No. 3, trombones enter for the first time at the start of the fourth movement, where they play a slow chorale in E-flat minor, the parallel key. He contrasted the “Florestan” and (*) “Eusebius” (**yoo-SEE-bee-us**) sides of his personality in a piece with movements such as “Chiarina” (**kee-ah-REE-nuh**) and “Paganini.” The fourth movement of his B-flat major Symphony No. 1 quotes his own *Kreisleriana* (“**CHRYSLER**”-ee-ah-nah), while the fourth movement of his Symphony No. 3 in E-flat major was inspired by a viewing of the Cologne Cathedral. This composer of *Carnaval* depicted a young child dreaming in the “Träumerei”

(TROY-muh-RYE) movement of his *Kinderszenen* (KIN-der-SEN-nen). For 10 points, name this composer who wrote the *Rhenish* Symphony after a trip with his wife Clara.
ANSWER: Robert Schumann

12. Hans Kuzmany used this model to analyze resonance Raman (RAH-man) scattering in poly-acetylene. This model can be used to derive the properties of a laser using a double hetero-structure with observable energy level splitting developed by C.H. Henry. One application of this model is to find the color of cyanine (SIGH-uh-neen) dyes, which contain an extended conjugated pi system. The normalization of the wavefunction in this setup is the square root of quantity 2 over L, times the (*) sine of n times pi divided by L. The uncertainty of the momentum is approximately inversely proportional to the width in this model, and its energy levels are equal to h-squared n squared over 8 m L squared. For 10 points, identify this toy model in quantum mechanics whose potential is infinite everywhere and zero in some confined region.

ANSWER: particle in a box [or infinite potential well or infinite square well]

13. One argument in this work refers to the essence of bees, and argues that “there are many kinds of bees” is an insufficient answer to “what is a bee?” This work claims that people who mend shoes would starve to death if they returned the shoes in worse shape instead of fixing them. Another section of this work discusses the definition of “figure”, and it is hypothesized that “figure” is what follows (*) color, which is later replaced by the hypothesis that figure is the limit of a solid. A character in this work is described as like a stingray, which “benumbs whatever it touches,” and that character flatters Anytus (ah-NEE-tuss) and argues that virtue cannot be taught. In this work, a boy re-creating the Pythagorean theorem is used to claim that all knowledge is recollection. For 10 points, name this Platonic dialogue named after an attractive soldier and student of Gorgias.

ANSWER: Meno

14. This artist showed a star-crowned cherub with a torch above a young girl being carried up to heaven by an angel in *The Apotheosis of Penelope Boothby*. A spray of blood can be seen from a creature captured by a chain held by a god standing on the prow of a boat in one of this artist’s mythological scenes. Another of his works depicts a girl with a butterfly for hair and an eyeless woman in white clustered around a naked woman and a man with a (*) donkey’s head. This artist of *Thor Battering the Midgard Serpent* and *Titania* (tuh-TAN-yuh) and *Bottom* created four versions of a painting in which phallic penetration is symbolized by a ghostly horse’s head poking into a tent. Those paintings by him depict a woman lying on a bed with an incubus perched on top her chest. For 10 points, name this Swiss artist of *The Nightmare*.

ANSWER: Henry Fuseli

15. Stefanie Gregg’s *And the Scent of White* was an account of the investigation into this event. The perpetrator of this event was codenamed “Piccadilly” (PICK-uh-dil-ee) and was later identified as Danish national Francesco Gullino. Its target was known as “Wanderer” and had previously written the *In Absentia Reports* to be broadcast on Radio Free Europe. A similar event that occurred ten days before at the Paris Metro targeting Vladimir Kostov, and the perpetrator of this event used an (*) ordinance containing 90% platinum and 10% iridium that was designed to melt at 37 degrees Celsius. This action was carried out while the target was walking over Waterloo Bridge, and the target died 10 days later of ricin poisoning. For 10 points, name this event in which a Bulgarian dissident was assassinated using a pellet launched from an umbrella.

ANSWER: Assassination of Georgi Markov [accept equivalents; accept the Umbrella murder before mention]

16. Oxy-clo-zanide works by uncoupling oxidative phosphorylation in members of this phylum. One class in this phylum consists of parasites of fish that use specialized hook structures on their opis-thaptor to attach to gills. Cysts grow in the brain in a disease caused by *T. solium* in this phylum, which is acquired from pigs and is a leading cause of acquired epilepsy. This phylum, which also includes a non-parasitic class containing (*) planarians called Turbellaria (TUR-buh-LARE-ee-uh), also contains the cestodes and trematodes. Two cell types characteristic of this phylum form a combination that extracts and drives mesenchyme (MEZ-eng-kahym) water to control internal fluid concentration; that proto-nephridia is made up of flame and tube cells. For 10 points, name this phylum of triplo-blastic, bilaterian invertebrates with no body cavity, commonly known as flatworms.

ANSWER: platyhelminthes [accept “flatworms” until mentioned]

17. One section of this work decries internationalism by citing the example of trying to create a Tennessee Valley Authority for the Danube Basin. One section of this work argues that Drucker’s idea of the “End of Economic Man” was more like “Economophobia.” One section of this work criticizes systems like “art for art’s sake,” and cites the example of one nation ending the “neutrality of chess”; that section is “The End of Truth.” One section of this work

posits that a non-violent English (*) fascist regime would begin more palatable than German or Italian ones, though it wouldn't stay that way, in its section "Why the Worst Get on Top." Dedicated to "the socialists of all parties," it was also published in a condensed version in *Reader's Digest*. For 10 points, name this work which posited that collectivist economies inevitably lead to dictatorships by Friedrich Hayek.

ANSWER: The Road to Serfdom

18. A character wearing this type of clothing who lives outside Houston describes three women who refuse to ruin their friendship for a man in "pyramid" and narrates the story of the Creole dancer Sechita. An author who wrote that "womanism is to feminism as [this property] is to" a similar one in the collection *In Search of Our Mother's Gardens* also penned a novel in which a character states that "it pisses God off if you walk by" this thing "in a field somewhere and don't notice it." This (*) color appears in the title of a novel in which Adam undergoes the same facial scarring ritual as his new wife Tashi before leaving Africa with Samuel and Nettie. Much of that novel titled partly for this color features a protagonist who writes letters to God while in an abusive marriage with Mister, from which she eventually flees after falling in love with Shug Avery. For 10 points, name this color that titles a novel about Celie by Alice Walker.

ANSWER: purple [or "the color purple"; prompt on "color" until "this color" is read]

19. One leader during this period assembled the Shin Kokinshu, an important poetry collection. During this government, Tokimasa developed an eastern regency based on Buddhist concepts; that conflict was included in Kamo no Chomei's *The Ten Foot Square Hut* written during this period. One usurper during this period was exiled to the Oki islands. The Joei Shikimoku (JO-ay shee-kee-MOH-koo), mainly applying to the upper classes, was the administrative code in force during it. The (*) Hojo family defeated Go-Toba's forces at the third battle of Uji during the Jokyu Disturbance in this period. This period was established following the defeat of the Taira clan in the Gempei War. For 10 points, name this era of Japanese history from 1192 to 1333 during which the Minamoto (MEEN-uh-MO-toh) clan took over, replacing the previous Heian period.

ANSWER: Kamakura period

20. In one of this author's stories, a little boy gets drunk and wails "Go away, stove!" leading to his mother giving him castor-oil as a remedy. A coffin-maker nicknamed "Bronze" who plays in a klezmer orchestra in his spare time overcomes his anti-Semitism after his wife Marfa dies in another story by this man. The line "the most complicated and difficult part was just beginning" ends a story by this author in which von Dideritz's (DEE-duh-ritz) wife is startled to encounter the protagonist at a performance of *The (*) Geisha* (GAY-shuh). This author of "Grisha" and "Rothschild's Violin" wrote a story about the affair between Dmitri Gurov and Anna Sergeyevna (SIR-gay-EV-nah). Constantin Stanislavski (STAN-is-LAV-skee) revived the reputation of a play by this man that features a love triangle between the ingenue Nina Zarechnaya (ZUH-reck-NAI-uh), the playwright Treplev, and the popular writer Trigorin. For 10 points, name this Russian author of "The Lady with the Lapdog" and *The Seagull*.

ANSWER: Anton Chekhov [or Anton Pavlovich Chekhov]

Bonuses

1. The Duke of Wellington created the lines of Torres Vedras to protect one capital in this conflict, which was triggered by an 1807 invasion led by Jean-Andoche Junot. For 10 points each:

[10] Name this conflict in which Napoleon's forces invaded Spain and Portugal.

ANSWER: Peninsular War

[10] John VI fled to this Portuguese colony with his court after the invasion of Portugal by Jean-Andoche Junot. This nation was ruled by the emperor Pedro II and was claimed for Portugal by the explorer Pedro Alvares Cabral.

ANSWER: Brazil

[10] The Peninsular War was ended by this alliance, which emerged victorious at the Battle of Leipzig. Sweden entered this alliance after signing the Treaty of Orebro and after the UK gave up claims in Norway.

ANSWER: Sixth Coalition

2. The verdict in this event hinged on photographs that showed a wooden ladder matched a plank from an attic as well as handwriting on ransom notes. For 10 points each:

[10] Identify this sensational 1935 event during which Richard Hauptman was found guilty of murdering a young infant with a famous father.

ANSWER: Lindbergh Kidnapping Trial [accept anything including Lindbergh]

[10] Another sensational 1930s trial, the Massie Trial, took place in this state in 1932. Clarence Darrow defended several US sailors and Grace Fortescue who killed a local man from this state accused of raping Fortescue's daughter.

ANSWER: Hawaii

[10] Shocking stories of adultery in this family surrounded a 1934 custody dispute between Gloria Morgan and Gertrude Whitney over possession of a trust fund after the death of Reginald, the son of Cornelius.

ANSWER: **Vanderbilt**

3. Answer the following about literature that's at least as American as mom and apple pie, for 10 points each.

[10] The life of Phillies player Eddie Waitkus, including his inexplicable shooting and later comeback, served as the basis for this debut novel by Bernard Malamud about Roy Hobbs and his bat Wonderboy.

ANSWER: *The **Natural***

[10] Ethan Feld and his teammates use their baseball skills to prevent Coyote from destroying the Lodgepole in *Summerland*, a novel by this author of *Telegraph Avenue* and *The Amazing Adventures of Kavalier and Clay*.

ANSWER: Michael **Chabon**

[10] The subject of this John Updike essay is compared to Hamlet for never having won the World Series despite his stellar statistics. It also describes that subject, Ted Williams, hitting a home run in his final at-bat.

ANSWER: "**Hub Fans Bid Kid Adieu**"

4. For 10 points each, answer some questions about titration techniques.

[10] This compound is the most commonly used to assess the metal ion content of solutions, such as determining water hardness with Eriochrome Black T as an indicator.

ANSWER: **EDTA** [or **ethylene diamine tetra-acetic acid** or **ethylene diamine tetra-acetate**]

[10] A titration with this element can be used to determine the degree of unsaturation present in a hydrocarbon chain. This halogen is liquid at room temperature.

ANSWER: **bromine** [or **Br**]

[10] This indicator is commonly used in acid-base titrations because it is colorless in acidic solutions and fuschia in basic solutions. This compound is a component of the Kastle-Meyer test to find blood at a crime scene.

ANSWER: **phenolphthalein** (FEEN-ol-FAY-leen)

5. For 10 points each, answer some questions about the first Christian apostles.

[10] This man was one of the first two disciples whom Jesus called to follow him. A fisherman by trade, this first pope became known as the Rock and was eventually martyred via upside-down crucifixion.

ANSWER: Simon **Peter**

[10] "Even if all may fall away because of you, I will never fall away!" Peter vehemently insisted during the Last Supper. In response, Jesus predicted that before this event took place, Peter would deny him three times.

ANSWER: **rooster crows**

[10] Although highly regarded as a leader of the early church, Peter was later rebuked by the apostle Paul for not performing this action, a decision Paul condemned as self-righteous and hypocritical.

ANSWER: **eating with Gentiles** [do NOT accept "eating unclean food" or "eating with unbelievers"]

6. For 10 points each, answer the following thinly veiled penis jokes masquerading as bonus parts:

[10] This trickster god's name may have derived from the Hopi word for the desert robber fly; some tribes believed that he had a detachable penis which he would float down rivers to have sex with bathing girls.

ANSWER: **Kokopelli**

[10] This Irish god was often depicted with a penis so large that it dragged on the ground as he walked. He had an affair with Boand which produced Aengus Mac Og and had a harp that could control the seasons.

ANSWER: The **Dagda**

[10] Lingams, phallic structures meant to signify infinity, are often used in the worship of this destroyer god. His throat turned blue when he drank the poison Halahala during the churning of the ocean.

ANSWER: **Shiva**

7. Respond appropriately to the following non-questions about Emily Brontë's *Wuthering Heights*, for 10 points each.

[10] This surname is shared by siblings Catherine and Hindley, as well as Hindley's son Hareton.

ANSWER: **Earnshaw**

[10] This orphan, adopted by the Earnshaws, falls in love with Catherine. He later gains ownership of Wuthering Heights after Hindley's death.

ANSWER: **Heathcliff**

[10] After marrying Edgar Linton, Catherine becomes mistress of this Yorkshire estate. Mr. Lockwood, the novel's first narrator, rents this property from Heathcliff prior to the events of the novel.

ANSWER: **Thrushcross Grange**

8. For some reason, this physical law was first proposed in the form of an anagram in Latin. For 10 points each:
[10] Potential energies that behave quadratically in small displacements from equilibrium can have a force approximated by this law. Beyond the elastic limit, this law used for oscillators no longer applies.

ANSWER: **Hooke's** Law

[10] A dashpot demonstrates this effect. The quality factor for oscillating systems undergoing this phenomenon is the original frequency divided by a factor quantifying the amount of this in the system.

ANSWER: **damping**

[10] For a critically damped harmonic oscillator, the Q-factor is equal to this value.

ANSWER: one-**half** or **point five**

9. Opportunities for this activity are often quickly eliminated through price convergence. For 10 points each:

[10] Name this economic activity which involves taking advantage of a simultaneous price difference for a single product in two or more markets.

ANSWER: **arbitrage**

[10] Theoretically, arbitrage is free of this. This is the chance that the actual return from an investment will be different than expected, and its namesake "aversion" describes an agent's behavior in response to uncertainty

ANSWER: **risk**

[10] Along with Samuelson and Merton, this Nobelist created the first attempt at computerized arbitrage trading. He introduced Modern Portfolio Theory, or MPT, which attempts to maximize return for a given amount of risk.

ANSWER: Harry **Markowitz**

10. This man's paintings include a "Last Supper" in which the eyes of participants are merely suggested. For 10 points each:

[10] Name this artist who painted works such as *View of Cagnes* and *The Turning Road at L'Estaque*. Like Claude Monet, he also painted a view of Charing Cross Bridge in London.

ANSWER: Andre **Derain** (duh-RAIN)

[10] This other founder of Fauvism is known for his paintings of naked women dancing in *The Joy of Life* and *The Dance*. He depicted his wife with a line running down her face in *Green Stripe*.

ANSWER: Henri **Matisse**

[10] Matisse also drew his wife in *Woman with a Hat*, causing Camille Mauclair to accuse him of "flinging" this item "in the face of the public." Ruskin accused Whistler of flinging this item into the face of the public as well for painting *Nocturne in Black and Gold: The Falling Rocket*.

ANSWER: a **pot of paint** [do NOT accept equivalents, but prompt on "paint"]

11. "The presbytery has lost nothing of its charm, nor the garden its brightness" is a recurring sentence in this work. For 10 points each:

[10] Name this Gaston Leroux (luh-ROW) novel that pioneered a certain subgenre of crime fiction. In it, Joseph Rouletabille (roo-LAY-tuh-BEE) investigates the seemingly-inexplicable beating of Mathilde Strangerson.

ANSWER: *The **Mystery of the Yellow Room***

[10] Leroux is much more famous for this novel, in which a chandelier falls into the audience after Carlotta loses her voice. Raoul attempts to save Christine from the mask-wearing Erik in this work.

ANSWER: *The **Phantom of the Opera***

[10] While traveling in India, the Phantom became an expert in the use of this weapon, which he later used in his role as the Shah's assassin. Raoul realizes he can defend against this weapon by keeping his hands at eye level.

ANSWER: the **Punjab lasso** [prompt on **lasso**]

12. This mode is a diatonic scale corresponding to the white keys of the piano from D to D. For 10 points each:

[10] Name this symmetric musical mode, a major scale played from the pitch a whole tone above the tonic. It was notably used in "Milestones" and "Oye Como Va."

ANSWER: **Dorian** mode

[10] The Dorian mode was also used in "So What," the first track on this album, which was influential for using modality instead of the chord-based hard bop style. It also includes "Freddie Freeloader" and "Flamenco Sketches."

ANSWER: ***Kind of Blue***

[10] *Kind of Blue* was performed by this jazz trumpeter also known for *Bitches Brew* and *Sketches of Spain*.

ANSWER: Miles **Davis**

13. Though 2015 is not an Olympic year, the top athletes in the world came together for the IAAF World Championships. For 10 points each:

[10] This Jamaican won the 100m, 200m and 4x100m relay at this year's World Championships, a feat he also achieved at the 2012 Olympics. He holds the world record in the 100m, at 9.58 seconds.

ANSWER: Usain **Bolt**

[10] Bolt also won the sprint triple at the 2008 Olympics in Beijing at this stadium, also known as the Beijing National Stadium, that will again be used as an Olympic venue for the 2022 Winter Olympics.

ANSWER: **Bird's Nest** [accept Beijing **National Stadium** before mention]

[10] Another athlete who won gold at the World Championships was this American, a decathlete and defending Olympic champion, who broke his own world record for most points that set at the 2012 US Olympic Trials.

ANSWER: Ashton **Eaton**

14. This piece is underlined by a persistent two-bar ostinato for snare drum. For 10 points each:

[10] Name this one-movement piece by Maurice Ravel (**ruh-VELL**) in which a single theme is repeated again and again, growing louder each time.

ANSWER: **Boléro**

[10] An E minor toccata (**toh-KAH-tuh**) closes this six-movement piano suite by Ravel, whose movements are each dedicated to a friend who died fighting in World War I.

ANSWER: **Le tombeau de Couperin** [or **The Tomb of Couperin**]

[10] Ravel's second piece in this genre follows up a second-movement Blues with a Perpetuum mobile (**MOH-bee-lay**) finale. An A major piece in this genre is based on a cyclic theme found in all four movements.

ANSWER: **violin sonata** [prompt on "sonata"]

15. This compound is broken down by a namesake transaminase into succinic semialdehyde. For 10 points each.

[10] Name this inhibitory neurotransmitter of the central nervous system released by Purkinje (**pur-KIN-jee**) cells. Benzodiazepines and alcohol both enhance its effects.

ANSWER: **GABA** [or **gamma-aminobutyric acid**]

[10] This enzyme catalyzes the transformation of glutamate to GABA and carbon dioxide, using P-L-P as a cofactor. Antibodies to its 65 kilodalton isoform are found in people with Type I diabetes.

ANSWER: **glutamic acid decarboxylase** [or **glutamate decarboxylase** or **GAD**]

[10] GABAergic neurons in the striatum also use substance P as a neurotransmitter. This violates this principle, which in one formulation states that for a given neuron uses only one neurotransmitter.

ANSWER: **Dale's** principle

16. Due to the incomprehensible third section of this text, its author decided to write the *Critique of Practical Reason*. For 10 points each:

[10] Name this 1785 work which introduces the categorical imperative and discusses "the good will." It argues that humans are rational and morally autonomous.

ANSWER: **Groundwork of the Metaphysics of Morals** [or **Grundlegung zur Metaphysik der Sitten** or **Foundations of the Metaphysics of Morals**; or **Grounding for the Metaphysics of Morals**; do not accept "The Metaphysics of Morals"]

[10] *Groundwork for the Metaphysics of Morals* was written by this philosopher, who described enlightenment as "Man's emergence from his self-imposed immaturity" in *What is Enlightenment*. He also wrote the *Critique of Pure Reason*.

ANSWER: Immanuel **Kant**

[10] In *On the Basis of Morality*, Schopenhauer (**SHOW-pen-how-ur**) criticizes Kant by claiming that actions done due to this concept are not actually moral. Deontological ethics are sometimes called ethics driven by *this*, since rules bind you to this concept.

ANSWER: **duty**

17. At the Great Debate, this man took the position that mysterious objects observed in space were not their own galaxies. For 10 points each:

[10] This astronomer was opposed by Heber D. Curtis and was later proven wrong by Edwin Hubble, but he did calculate an accurate size of the Milky Way and conceptualize what would be known as the habitable zone.

ANSWER: Harlow **Shapley** (**SHAPP-lee**)

[10] Before Hubble's result, extragalactic objects were believed to be spiral types of these astronomical bodies. Another erroneously named type of them is the planetary type, which are actually the remains of red giant stars.

ANSWER: **nebula**

[10] Shapley used these variable stars to calculate the Milky Way's size. These Cepheid-like variables are commonly found in globular clusters and, unlike Cepheids, they belong to Population II.

ANSWER: **RR Lyrae**

18. Notable alumni of this university include Enrico Fermi and Rene Preval. For 10 points each:

[10] Name this Italian university founded in 1343 known for its rivalry with the University of Pavia. It has produced five popes, more than any other school in the world.

ANSWER: The University of Pisa [or UniPi or Universita di Pisa]

[10] Another notable alumnus of the University of Pisa was this astronomer who wrote *Dialogue Concerning the Two Chief Systems* and first observed the four largest satellites of Jupiter.

ANSWER: Galileo Galilei [accept either underlined part]

[10] Galileo was ironically forced by this pope, also an alumnus of the University of Pisa, to recant his astronomical beliefs in 1615. He later stockpiled weapons in the Vatican.

ANSWER: Urban VIII

19. The Persepolis Fortification Archive details the administration of this empire. For 10 points each:

[10] Name this empire founded by Cyrus the Great, the First Persian Empire, which also constructed the Mausoleum of Halicarnassus.

ANSWER: Achaemenid Empire (ack-uh-MAY-nid)

[10] This third Achaemenid king conquered Afghanistan and the surrounding Indus Valley area, absorbing it into his empire. He suppressed the Ionian revolt, which led to war with Athens.

ANSWER: Darius the Great [or Darius I; prompt on “Darius”]

[10] In 512 B.C. Darius crossed this river to attack the Scythians. Alexander the Great later defeated the Triballi in three battles near this river.

ANSWER: Danube

20. In *The Possessed*, Elif Batuman mentions the theory that the words “gazelle” and “ghazal” have the same roots while describing her experience with Alisher Navoi’s Uzbek version of this story. For 10 points each:

[10] Name this ancient Arabic love story most famously adapted by Nizami Ganjavi. One of its title characters was originally named Qays but gains the title nickname due to his dramatic attempts to woo the other title character.

ANSWER: Layla and Majnun [or Layli and Majnun]

[5,5] The tragedy of these two people forms part of Ferdowsi’s Shahnameh. The first is a famous warrior who has an affair with Tahmina; the second is his son whom he unknowingly kills on the battlefield. For five points each, name them.

ANSWER: Rostam and Sohrab

[5,5] The first member of this couple is a king from the Arabian Nights who marries and kills a new virgin every day; the second member is his final wife who postpones her execution by telling him stories with cliffhangers. Again, name them for five points each.

ANSWER: Sharvazad and Scheherezade