

1. Coelenterazine is oxidized to coelenteramide and a quantum of blue light is released when the three sites of this motif are bound in aequorin. Proteins like sorcin, ALG-2, and peflin are notable for having five of these motifs. Two of these motifs characterize a family of proteins named for their solubility in a 100% saturated solution of ammonium sulfate, the S100 subfamily. The amino acid at position 12 in this motif, denoted with a hyphen Z, must provide two oxygens for a bidentate ligand, so that residue is almost always glutamate, although it can be aspartate in parvalbumin. This motif has a high affinity for strontium since strontium is chemically similar to the ion it binds, and it is found in such prominent proteins as troponin C and calmodulin. For 10 points, identify this most common calcium-binding motif in proteins that is named for being the third helix-loop-helix domain in parvalbumin after the AB and CD domains.

ANSWER: **EF-hand** structural motif [or obvious equivalents for "motif", such as "domain"; prompt on **EF** domain; prompt on **helix-loop-helix** motif]

2. The journalist Saville Davis decided to modify his article about this action to withhold the identity of the man responsible for it. This action was carried out using Anna Chennault as an intermediary, and an attempt to prevent this action involved a warning to Everett Dirksen, which led the man who carried out this action to personally deny it in a phone conversation. Information regarding how this action was carried out was contained in the "X-memorandum" written by Walt Rostow, and the perpetrator of this action was partially assisted in it by Senator John Tower. This action was carried out by coordination with Nguyen van Thieu, who suggested that any settlement with the Viet Cong should be postponed until the 1968 Presidential election. For 10 points, identify this diplomatic action perpetrated by a future president.

ANSWER: **Nixon sabotaging the Paris peace talks** [accept any answer which mentions Nixon and the derailing of the Vietnam peace process]

3. In 1996, Eckart and Genzel used speckle interferometry to measure this quantity and found that its distribution is centered on the purported position of Sagittarius A-star. Measuring this quantity for water masers associated with galactic centers makes it possible to directly determine the distance to the galaxy. Surveys for measuring this quantity typically use faint galaxies to define the reference frame, and in addition to measuring parallax, the precise measurement of this quantity was the major goal of the Hipparcos satellite. Typically measured in arcseconds per year, for 10 points, identify this astrometric quantity which measures the change of position of an object on the celestial sphere, factoring out change-of-coordinates phenomena such as precession.

ANSWER: **proper motion**

4. In response to this event, a pamphlet subtitled "A Reply to Friends in America," alleged that this event's aftermath was "a gradiose amalgam." Recent archival research by Matthew Lenoe provides evidence suggesting that the person who carried out this action acted alone. The suspicious death of a possible witness to this event in an allegedly accidental fall from a car led the Pospelov Commission to conclude that this action may have been purposefully ordered. This action was committed on December 1, 1934 by Leonid Nikolayev, touching off a series of purges that would claim, among others, Zinoviev and Kamenev. Possibly orchestrated by Stalin, for 10 points, identify this action which resulted in the death of the head of the Leningrad branch of the Soviet Communist Party.

ANSWER: the **assassination** of Sergey **Kirov**

5. One of these texts contains a dialogue in which listeners are asked whether something is permanent or

impermanent, after which the speaker concludes that “any kind of consciousness ... is to be regarded thus: ‘This is not my self.’” Another of these texts argues that someone who has heard the truth will find estrangement in the eye, in forms, and in eye-consciousness, which will lead him to a fading of passion. The first of these texts praises the Tathagata, who avoids the two extremes of a life given over to lust and a life devoted to mortifications, while another of these texts was allegedly spoken to a thousand *bikkhus* and argues that “all is burning.” The first of these texts, delivered in the Sarnath deer park, began the “Turning of the Wheel of Dharma,” and contains the Four Noble truths of suffering as well as the prescription for escaping it, the Eightfold Way. For 10 points, identify these texts allegedly spoken in person to monks by the former Siddhartha Gautama.

ANSWER: sermons of the Buddha [accept discourses or teachings]

6. One part of this novel consists of a chapter from its narrator’s novel, *A Way Back to Eden*, which itself contains a rewriting of Genesis as the story of Adam’s friendship with a man named Yedid, who is transformed into Eve when the pair are cast out of the Garden. The narrator of this novel testifies in the obscenity trial of Valentine Wriggley’s poetry collection *The Love Songs of J. Christ*, and earlier in life, the narrator was forced to leave London after being caught in a homosexual affair with Rodney Selkirk. Notable real-life figures present in this novel include Ford Maddox Ford, who has bad breath, and James Joyce. This novel’s narrator becomes the brother-in-law of the future Pope Gregory XVII when his sister Hortense marries the composer Domenico, and this novel begins with the narrator being visited by the Archbishop of Malta and asked to help with the pope’s canonization. For 10 points, identify this novel about the intertwined lives of the clergyman Carlo Campanati and the homosexual novelist Kenneth Toomey, which won the 1980 Booker Prize for Anthony Burgess.

ANSWER: Earthly Powers

7. Mikhail Tushmalov replaced the first one of these with the final one, which is identical except for the ending sustained B-flat and the octave doubling of the opening theme. That theme returns transposed up a fourth to E-flat major in the finale, and an earlier quotation of it is accompanied by an F-sharp octave tremolo. One of these ends with a series of octave A’s interrupted by a group of four sixteenth notes foreshadowing the opening motive of the following Scherzino. Several of these, including the first, begin with a monophonic statement of the opening theme for two bars, which is then harmonized in the next two bars. Those pairs of measures alternate between the time signatures of 5/4 and 6/4. The last one of these was omitted by Ravel, and follows “Samuel Goldenberg and Schmuyle”. For 10 points, name these five movements, one of which precedes “Gnomus”, in *Pictures at an Exhibition*.

ANSWER: promenades from *Pictures at an Exhibition*

8. This work recounts an anecdote about a classmate of the author who complained about a man who the classmate can’t believe understands an eclogue by Virgil better than himself. Recounting another anecdote, that of a fishmonger, this work says that a man who did what the fishmonger did “cannot have our conception of humanity.” One title figure of this work is said to conceive “only of a type of primitive ownership of land based on... magical rapport,” and is described as “a man who is afraid... of himself,” and thereby chooses “the total irresponsibility of the warrior who obeys his leaders.” The democrat is said to be a friend, but a “feeble protector,” of this work’s second title figure, because he “recognizes only man,” rather than “Arab, or Negro,” or the second title person. This work argues that the first of its title figures has “chosen hate because hate is a faith,” and that his attitude is a “comprehensive attitude... towards men in general.” Published one year after its author’s *Being and Nothingness*, for 10 points, identify this Sartre essay on the title form of racial hatred.

ANSWER: Anti-Semite and Jew or Reflexions sur la question juive [or, Reflections on the Jewish Question, I guess]

9. In the penultimate section of this book, the death of Lehita in a street fight causes a power struggle between Galta and Haggag, the latter of whom is murdered. That same section ends with the triumph of Kassem's men over Galta's thugs. In another section, Kerim, Ali, Hussein, and Zaki arrive too late to prevent the murder of Rifaa after Jasmine betrays him to the chief Bayumi. In the first chapter of this book, Kadri, the son of Adham, kills his brother Hammam and is forced to carry the body back home on his shoulders. The final part of this book is named after Arafa, a character who represents science and progress, just as the previous four sections are named after characters who represent Adam, Moses, Jesus, and Muhammad respectively. Taking its name from the fictional alley that represents God, for 10 points, identify this allegorical history of the Abrahamic religions set in Cairo, a novel by Naguib Mahfouz.  
ANSWER: The **Children of Gebelawi**

10. According to the art historian Edgar Wind, the inspiration for this painting was Hogarth's depiction of David Garrick. Another art historian, Marco Beretta, has argued that the objects depicted on the right side of this painting follow the chronological progression in which they were employed by one of this painting's subjects. In the left center background of this painting is a folio, intended to hint at the artistic profession of one of the figures depicted in this painting, who had previously been a pupil of the artist. The first title figure of this work is depicted writing with a quill as he sits at a table covered with a red cloth, and looks over his right shoulder at the second title figure, who wears a dress tied with a blue sash and leans on her partner's shoulder. Also depicted in this painting are numerous glass implements, such as a bell jar and a large flask on the ground. For 10 points, identify this painting by Jacques-Louis David which depicts a famous chemist and the woman he married.  
ANSWER: Portrait of Antoine-Laurent **Lavoisier** and His **Wife**, Marie-Anne Pierette Paulze [accept anything that mentions Lavoisier and his wife]

11. These expressions are applicable in convective situations where the temperature gradient is that of an adiabatic gas in hydrostatic equilibrium. The equation which gives rise to these expressions, which are parametrized by a namesake index  $n$ , only has analytic solutions for values of  $n$  equal to 0, 1, and 5, and these expressions can be used to determine that the mass is proportional to the radius raised to the power  $n$  minus 3 over  $n$  minus 1. These expressions arise as solutions to the Lane-Emden equation and those characterized by a value of  $n = 3$  are typically used to approximate the relativistic interiors of white dwarfs. For 10 points, identify these equations of state used to approximate stellar structure, in which the pressure is given as proportional to the density raised to the power  $n + 1$  over  $n$ .  
ANSWER: **polytropes**

12. A section of this work titled "Shuffle Off to Bethlehem," analyzes the prosperity gospel of a woman named Reverend Terry, arguing that people like Jimmy Swaggart and Pat Robertson are "the enemy of religious experience." Another section of this work analyzes the Lincoln-Douglas debates, attributing their elevated language to what the author calls "the typographic mind." In its final section, titled "The Huxleyan Warning," this work argues that "In America, Orwell's prophecies are of small relevance, but Huxley's are well under way towards being realized." This work's chapter on teaching bemoans the rise of Sesame Street as an example of the title phenomenon, and decries the increasing influence of media perception on political affairs in the chapter, "Reach out and Elect Someone." Its first section, "The Medium is the Metaphor," advances the thesis that "how we are obliged to conduct... conversations... will have the strongest possible influence on what ideas we can conveniently express," and its second, "Media as Epistemology," argues that the state of American discourse has degenerated greatly. For 10 points, identify this 1985 work of social criticism, the best known of Neil Postman.  
ANSWER: **Amusing Ourselves to Death**

13. In one legend told about this god, he performs an exorcism on the Princess of Bekhten to rid her of an evil spirit. In the Pyramid Texts of Unas, this god is described as “the slaughterer,” who cuts the throats of other gods and pulls out their entrails, as well as a messenger deity. This god’s name comes from a root meaning “to travel,” and he was occasionally syncretized with Thoth as a moon deity. Ramses III built a major temple to this deity, who was depicted there in three aspects: *pa-khart*, or “the Babe,” *Hunnu*, or “the Child,” and the most important aspect, that of *Nefer-Hetep*. Though not Horus, this god was usually depicted with the head of a hawk and the body of a man, and in his function as timekeeper is sometimes depicted holding the solar disk and standing on crocodiles. For 10 points, identify this Egyptian deity who together with his parents Amun and Mut made up the Theban Triad.

ANSWER: **Khensu**

14. A device that exploits this effect is the only quantum magnetometer that offers continuous or sequential operation; that magnetometer was introduced by GEM Systems. This effect is either positive or negative depending on the difference between the quantum transition probabilities  $\omega$ -sub-two and  $\omega$ -sub-zero. The first experimental test of it was performed by Carver and Slichter with metallic lithium. This effect can be eliminated by the addition of chromium(III) acetylacetonate. Experiments using it usually turn off the decoupler when acquiring the free induction decay, as opposed to HOMODEC experiments. It causes the spin populations of non-irradiated nuclei to change provided that an irradiated nuclei is causing T1 relaxation of them by the dipole-dipole mechanism. For 10 points, identify this type of dynamic nuclear polarization observed in NMR spectroscopy.

ANSWER: nuclear **Overhauser** effect [prompt on T1 **relaxation**]

15. Towards the end, this text mentions being taught that the “10th of October and 24th of February” are anniversaries of rejoicing. This text compares Article 40 of the Constitution to a lifeboat on a ship at sea, before name-checking Francois Hotman, John Knox, and Jean-Jacques Rousseau. Referencing the actions that were directly responsible for bringing it about, this speech commends Lieutenants Saria and Campa for being “true gentlemen in their treatment of prisoners,” and suggests that the Navy would have eventually sided with the speaker’s endeavors because “that branch of the Armed Forces is the least dominated by the Dictatorship.” This speech begins by noting that “counsel and defendant are one and the same,” and recalls the 76 days which its speaker had spent in prison, and ends by predicting that it does not matter if the speaker is condemned. For 10 points, identify this 1953 speech delivered during his trial for the assault on the Moncada barracks by Fidel Castro.

ANSWER: **History will absolve me** [or **La historia me absolvera**]

16. Louis-Francois Roubiliac was one of the foremost producers of these artworks in 18th-century Britain, with the most outstanding examples being one produced for William Hargrave and another for Lady Elizabeth Nightingale. Jacob Epstein produced a notable artwork of this kind featuring a winged messenger, which caused controversy in France for emphasizing the genitalia of the figure depicted. One of these artworks, created by Antonio Pollaiuolo, shows its subject, Innocent VIII, in two different positions, a motif partially repeated by Antonio Canova, who created a work of this type for Clement XIV. The statue of Moses with what appear to be two horns on his head was carved by Michaelangelo as the centerpiece of another famous artwork of this kind. For 10 points, identify these types of artworks which include Epstein’s one for Oscar Wilde in Pere Lachaise and one for Pope Julius II.

ANSWER: **tomb** or **funerary monument** [prompt on “grave” or anything similar]

17. This work’s narrator borrows a map of Poland from another man, but after finding that the names on the map “evoked no definite echo,” asks to keep it. At a brothel, the narrator hires a prostitute named

Olina, whom he asks to play him a Beethoven sonata, and who offers to rescue him by taking him to a little village in the Carpathians. The narrator of this work repeatedly tells himself "Soon, I'm going to die," a prophecy that comes true when the car in which he, Olina, and a soldier named Willi is attacked on the way to Stry. After asking himself "How much longer will the war go on?" the narrator of this novella concludes that it "won't be over before the end of 1944" because "this whole apparatus... [is] too obedient." For 10 points, identify this novel in which the German soldier Andreas travels to the Eastern front via the titular conveyance, the first published work of Heinrich Boll.

ANSWER: The **Train Was On Time** [or **Der Zug war pünktlich**]

18. As Chancellor of the Duchy of Lancaster, this politician came up with a public works program to alleviate unemployment, but the implementation of that program was scuttled by the critical Snowden Report. That report led this politician to resign from Ramsay MacDonald's government, and he had previously left the Conservative Party over the creation of the Black-and-Tans. This man and his second wife were interned under Defence Regulation 18B, and his first wife was Cynthia Curzon, the daughter of former Viceroy of India George Curzon. This man's first effort at party building, his New Party, which was supported by, among others, William Joyce, failed when it lost all of its seats in the 1931 election, and this man's followers were denied the opportunity to march through the East End of London when police failed to clear out counter-protesters at the Battle of Cable Street. For 10 points, identify this British political leader best known for founding the British Union of Fascists.

ANSWER: Oswald **Mosley**

19. The last lines of this book claim that there are "more and more endings... faster and faster until this book is having 186,000 endings per second." The possibly-titular character of this novel has a girlfriend who is the daughter of the "Freezer King of Sepulveda Boulevard," and a character in this novel named Johnston Wade, who walks around with a briefcase containing \$100,000 is repeatedly called "Roy Earle" by the main character. Many chapters in this novel, which includes a description of a "Daring Cavalry Raid on PG&E", are concluded with a flashback to the aftermath of a battle in which the title character was supposed to have taken part, and this novel itself is narrated by Jesse, who meets the main character while drinking on the Embarcadero in San Francisco. For 10 points, identify this novel by Richard Brautigan whose main character, Lee Mellon, claims descent from Augustus C. Mellon, the possibly-fictional titular Civil War-era military man.

ANSWER: A **Confederate General from Big Sur**

20. In one paper, this philosopher used the concepts of "metal oil" and "mental paint" to draw a distinction between "representationists" and "phenomenists." This philosopher argued that an "epistemic tension" exists between phenomenal realism and naturalism, a tension which he termed "the harder problem of consciousness." While teaching at MIT, this philosopher harshly panned Julian Jaynes and later, with Philip Kitcher, this philosopher co-authored the article "Misunderstanding Darwin," in response to Fodor and Piatelli-Palmarini's book *What Darwin Got Wrong*. This philosopher divided consciousness into "phenomenal" consciousness, and that consciousness which is available for use in reasoning, which he called "access consciousness. In a 1990 paper, written as a response to Gilbert Harman's "The Intrinsic Quality of Experience," this philosopher advanced what he called a "quasi-functiona" brand of qualia realism using an inverted spectrum thought experiment. For 10 points, identify this philosopher of mind at NYU.

ANSWER: Ned **Block**

1. This constant represents the magnitude of the van der Waals interaction between two bodies, X and Y. For 10 points each:

[10] Identify this constant symbolized A that is equal to  $\pi^2 \times C_{XY} \times \rho_X \times \rho_Y$ , where C is the interaction parameter between X and Y and  $\rho$  is the number of atoms per unit volume of each body. Its namesake calculated the van der Waals force between two spherical particles.

ANSWER: **Hamaker** constant [or obvious equivalents of "constant", such as "coefficient"]

[10] Although van der Waals forces are an example of electrostatic forces and would be expected to be proportional to distance to the minus three, they're actually proportional to this power of distance. Distance terms to the minus twelve and this power appear in the Lennard-Jones potential.

ANSWER: **minus six** [or obvious equivalents; do not accept "six"]

[10] This modification of the Lennard-Jones potential accounts for the size of a molecule. This potential transforms the  $\sigma/r$  term from the Lennard-Jones potential to  $\sigma/r - d$ , where d is the diameter of an impenetrable hard core where the potential is equal to infinity.

ANSWER: **Kihara** potential

2. This novel begins with the arrival of Alex, Alva, and Allen at the Antibes, and features a recurring character named Queen Quat, who is only mentioned by name in the middle of the book. For 10 points each:

[10] Identify this novel, an experiment in constrained writing in which every chapter adds the possibility of using a new letter, and then every chapter after the 26th takes a letter away.

ANSWER: **Alphabetical Africa**

[10] *Alphabetical Africa* was written by this Austrian-born American author, who won the PEN/Faulkner award for his novel, *How German It Is*.

ANSWER: Walter **Abish**

[10] Though he is not a member of the group, Abish's constrained writing experiments are similar to those undertaken by members of this literary movement, whose members include Georges Perec.

ANSWER: **Oulipo**

3. In one class of models of their formation, these structures are held to be primary magmas formed by partial melting of the mantle. For 10 points each:

[10] Identify these structures, which according to another class of models evolve from a parent magma by fractionation.

ANSWER: **mid-oceanic ridge basalts** [prompt on partial answers]

[10] MORBs are a tholeiitic basalt, which means that they are characterized primarily by being rich in this mineral, types of which include quartz and chalcedony. They are second to feldspars in chemical abundance in the crust.

ANSWER: **silica** minerals

[10] According to this original model of MORB formation formulated by Byran and Moore, a semi-permanent primitive melt is periodically refreshed from below while pushing upward through a "roof" of dikes into the ocean.

ANSWER: axial **magma chamber** model

4. This ruler defeated a Roman army at Barbalissa and his victory over Gordian III at Ctesiphon resulted in the assassination of Gordian and the elevation of Philip the Arab. For 10 points each:

[10] Identify this Sassanian emperor who succeeded his father, Ardashir I.

ANSWER: **Shapur I** [prompt on "Shapur the Great" because apparently both Shapur I and Shapur II were known as "the Great"]

[10] Many carvings at Naqsh-e Rostam and Bishapur depict Shapur's triumph over and capture of this Roman emperor, whom Shapur defeated at Edessa.

ANSWER: **Valerian**

[10] Shapur's domestic program included the construction of this dam near the town of Shushtar, which was supported by a set of arches known as Valerian's Bridge.

ANSWER: **Band-e Qaysar**

5. This work's chapter titled "Compensations and Reversions," condemns the "purposeless materialism," that comes from focusing on production. For 10 points each:

[10] Identify this work of sociology which argues that "the machine" was the product of a deliberate attempt to "achieve a mechanical way of life."

ANSWER: **Technics and Civilization**

[10] *Technics and Civilization* was written by this American sociologist, who examined the evolution of the title institutions in his *The City in History*.

ANSWER: Lewis **Mumford**

[10] One of the best known sections of *Technics and Civilization* is this second part of Chapter 1, which argues that the introduction of a certain machine into religious life was the forbear of modern capitalism.

ANSWER: The **Monastery** and the **Clock**

6. The first essay in this collection, "Making, Knowing, and Judging," details the author's poetic evolution and borrows the concepts of Primary and Secondary imagination to argue that poetry must "praise all it can for being." For 10 points each:

[10] Identify this collection of criticism which takes its title from a line in Shakespeare's sonnet 111. Its essay, "Balaam and His Ass" analyzes the master-servant relationship in literature.

ANSWER: The **Dyer's Hand**

[10] *The Dyer's Hand* was written by this British poet, better known for poems like "September 1, 1939" and "Funeral Blues."

ANSWER: Wystan Hugh **Auden**

[10] In "Making, Knowing, and Judging" Auden praises as a model of great criticism this collection by D.H. Lawrence, which covers writers such as Benjamin Franklin, James Fenimore Cooper, and Herman Melville.

ANSWER: **Studies in Classic American Literature**

7. This time period typically falls in mid-October and its primary religious observance consists of *shan*, or ritual bathing. For ten points each:

[10] Identify this sacred month of the Hindu lunar calendar, which in Benares is observed via *puja*, or worship, of Krishna.

ANSWER: **Kartik**

[10] The daily ritual bathing is part of this general type of votive observance in Hinduism, typically involving the performance of certain rituals with a specific goal in mind.

ANSWER: **vrat**

[10] Kartik is particularly sacred to this branch of Hinduism which is centered on the veneration of this four-armed blue-skinned god.

ANSWER: **Vaishnavism**

8. Tom McCoy was a principal actor in this event, which in the span of a single day used the favorable results of a recount to reorganize the entire government of Rhode Island. For 10 points each:

[10] Identify this pivotal event of Rhode Island history which took place on January 1, 1935, and in which a possible case of voter fraud allowed Democrats to assume complete control of state politics.

ANSWER: **Bloodless Revolution**

[10] The major architect of the Bloodless Revolution was this Rhode Island governor, a progressive New Dealer who would later serve four terms in the US Senate.

ANSWER: Theodore Francis **Green**

[10] While in the Senate, Green teamed up with Scott Lucas of Illinois to sponsor a bill that would have placed this action for soldiers under the auspices of the federal government. The bill passed after being watered down with amendments by Southern Democrats and Republicans.

ANSWER: **voting**

9. One of the title figures in this painting holds a red spear point-down, while the other figure is perched vertically on his chest. For 10 points each:

[10] Identify this painting, whose second title figure was also depicted by the same painter sitting on a cliff underneath which the bodies of its victims were strewn.

ANSWER: **Oedipus and the Sphinx**

[10] *Oedipus and the Sphinx* is one of the most famous paintings of this Symbolist painter, who depicted a woman holding the head and lyre of the title bard in his *Orpheus*.

ANSWER: Gustave **Moreau**

[10] This other painting by Moreau is a smorgasboard of activity: the title deity sits on a massive gold throne and has a red halo in the center of this painting, while his lover, struck dead, is draped over his right arm.

ANSWER: **Jupiter and Semele**

10. The third chapter of this work defines one of its title concepts as what happens when "the material... runs its course to fulfillment." For 10 points each:

[10] Identify this philosophical work whose other chapters concern subjects such as the "common" and "varied" substances of the title concept, and "the expressive object."

ANSWER: **Art as Experience**

[10] *Art as Experience* is the defining aesthetic work of this philosopher, who also wrote *Democracy and Education*.

ANSWER: John **Dewey**

[10] In *Art as Experience*, Dewey frequently uses this two-word phrase to designate a being situated in and interacting with its environment. The first two chapters of the work are concerned with this concept.

ANSWER: **live creature**

11. These bacteria were first investigated by Richard Blakemore. For 10 points each:

[10] Identify these bitchin' bacteria that use magnetosomes arranged in chains as a compass to orient themselves in relation to the Earth's magnetic field.

ANSWER: **magnetotactic** bacteria [or **MTB**]

[10] Magnetotactic bacteria are classified based on whether the magnetic nanoparticles in their magnetosomes are magnetite, with formula  $\text{Fe}_3\text{O}_4$ , or the structurally-identical greigite, which has this element in place of oxygen. The oxidation of a compound containing this element and two hydrogens is the most common source for chemosynthesis.

ANSWER: **sulfur** [or **S**]

[10] The wet-mount technique and this other wet preparation are often used to observe motile, live



microbes in visible microscopy. This technique uses a coverslip with petroleum jelly on the edges as an adhesive and involves placing a preparation of bacteria on the coverslip using an inoculation loop, covering the coverslip and preparation with a concave-depressed slide and inverting. A general description is acceptable.

ANSWER: **hanging-drop** technique [or obvious equivalents]

12. This play's main character Frantz is in love with Monime and tries to get money from the American Bentz to marry her, but Bentz refuses him. For 10 points each:

[10] Identify this play in which Frantz murders the Duchess, who is the guardian of Monime.

ANSWER: The **Ermine** or L'**Ermine**

[10] *The Ermine* was the first solo effort by this playwright, who satirized the Vichy regime with his updated setting of *Antigone*.

ANSWER: Jean-Marie-Lucien-Pierre **Anouilh**

[10] In this Anouilh play, Hero seduces Lucille by convincing her that Count Tiger does not love her, after which, feeling guilty, he challenges Villebosse to a duel in which he will be killed.

ANSWER: The **Rehearsal**

13. In this film's iconic final scene, a group of boys whistles while observing the execution of the priest Don Pietro. For ten points each:

[10] Identify this film in which Bergmann shoots Don Pietro after torturing Manfredi.

ANSWER: **Rome, Open City** or **Roma, città aperta**

[10] *Rome, Open City* is probably the most famous film of this Italian neo-realist director.

ANSWER: Roberto **Rossellini**

[10] Rossellini completed his war trilogy with this film, which follows the peregrinations and eventual suicide of Edmund Kohler in the title location.

ANSWER: **Germany, Year Zero** or **Germania anno zero**

14. This man was married to Aedon, the daughter of Pandareus, who was so jealous of this man's brother's family that she resolved to kill his nephew, but instead killed her own son Itylus. For 10 points each:

[10] Identify this man who with his brother killed Lycus and Dirce and jointly ruled the city that Lycus used to rule.

ANSWER: **Zethus**

[10] Zethus was the twin brother of this son of Antiope and husband of Niobe, who helped build the walls of Thebes by playing the lyre so well that the stones moved into place by themselves.

ANSWER: **Amphion**

[10] The fortifications erected by Zethus and Amphion were located on the site of an earlier citadel which had been constructed by Echion, Udaeus, Chthonius, Hyperenor, and Pelorus, the only five survivors of this group.

ANSWER: **Sparti** or the **Sown Men** [accept anything that mentions the men who sprang from the dragon's teeth sown by Cadmus]

15. This conflict broke out after one participant rebelled against the son of Frederick I. For 10 points each:

[10] Identify this struggle for the Danish throne which broke out in 1534, and which ended with the ascendance of Christian III.

ANSWER: the **Count's War** or Feud or **Grevens Fejde**

[10] This leader who was defeated in the Count's War was, appropriately enough, the count for whom it was named. He fought to return Christian II to the throne, but was defeated at Oxneberg.

ANSWER: **Christopher**, count of **Oldenburg** [both parts required]

[10] Oldenburg's power base was in this Hanseatic city, whose mayor Jorgen Wullenwever initially recruited Oldenburg to the cause of Christian II.

ANSWER: **Lubeck**

16. The current resulting from this effect is proportional to the square of the temperature times the exponential of the negative of the work function over  $kT$ . For 10 points each:

[10] Identify this effect in which a metal subjected to a temperature increase releases electrons.

ANSWER: **thermionic** emission or the **Richardson** effect

[10] In thermionic emission, the work function represents the height of the potential barrier the electrons must overcome minus this quantity, the highest occupied level in a multi-electron system.

ANSWER: **Fermi** level

[10] At high electric fields, the potential barrier is rendered ineffective; at moderate fields, the current increases by a factor proportional to the square of the field intensity, known as this eponymous effect.

ANSWER: **Schottky** effect

17. This clash took place near modern-day Konya, and the victory of the winning side is generally attributed to their ability to occupy the elevated position. For 10 points each:

[10] Identify this 1176 battle in which the forces of the Sultanate of Rum, led by Arslan II, inflicted an overwhelming defeat on the Byzantine army.

ANSWER: the battle of **Myriokephalon**

[10] The Byzantines at Myriokephalon were led by this emperor, a Comnenid who reigned from 1143 to 1180.

ANSWER: **Manuel I** Comnenus

[10] Manuel himself compared his rout at Myriokephalon to the Byzantine loss at Manzikert a century before, and himself to this emperor, who led the Byzantine forces there.

ANSWER: **Romanus IV** Diogenes [accept **Romanus Diogenes**]

18. In this work, the title character hears the whistling of a boy who crosses the bridge every day at 11:30, but does not call out for help. For 10 points each:

[10] Identify this short story about a banana farmer who accidentally impales himself on his own machete.

ANSWER: The **Dead Man** or El **hombre muerto**

[10] "The Dead Man," is one of the best-known stories of this writer, whose collections include *Los desterrados*, or *The Exiles*, as well as *Stories of Love, Madness, and Death*.

ANSWER: Horacio **Quiroga**

[10] In a novel by Quiroga, Nicolas Donisoff, Luigi Sivel, and Ricardo Ortiz perform an experiment with this goal, which was also achieved by a scientist named Victor in a Mary Shelley novel.

ANSWER: **creating a human being** or **creating life** [the Quiroga novel is titled *The Artificial Man*]

19. This work argues that one of the reasons for the failures indicated in its subtitle is the ideology of "high modernism." For 10 points each:

[10] Identify this work which seeks to explain "how certain schemes to improve the human condition," such as farm collectivization in the USSR, have failed. It argues that one of the problems of the title entity is its attempt to make society "legible."

ANSWER: **Seeing Like a State**: How Certain Schemes to Improve the Human Condition Have Failed

[10] This Yale political theorist, who also wrote *The Art of Not Being Governed* is the author of *Seeing Like a State*.

ANSWER: James **Scott**

[10] Scott is also the author of a book whose title suggests giving two cheers for this political philosophy, the roots of which go back to Pierre Proudhon.

ANSWER: **anarchism**

20. One scene in this work sees the title character roll and light a cigarette for her lover Ottavio. Later, Adriani's pirates show up and the women dance with them in order to disarm them.

[10] Name this ballet that includes a "Moroccan Dance" and a "Pas des cymbales" in addition to the aforementioned "Valse de la cigarette".

ANSWER: **Namouna**

[10] This composer of *Namouna* is perhaps best known for his five-movement violin concerto entitled *Symphonie espagnole*.

ANSWER: Edouard **Lalo**

[10] This Lalo opera, based on a legend about a sunken city, incorporates some Breton folk tunes: the chorus sings "Les guerres sont terminees" to celebrate the betrothal of the title character's daughter Margared to their former enemy Karnac. She refuses to marry him because she loves Mylio, but he in turn is in love with her sister. More battles and a flood ensue.

ANSWER: *Le **roi d'Ys*** [*The **King of Ys***]