PACE NSC 2011
Edited by Mike Bentley, Matt Bollinger, Rob Carson, Kyle Haddad-Fonda, Hannah Kirsch, Trygve Meade, Bernadette Spencer, Guy Tabachnick, and Andy Watkins

Packet 24

Tossups

1. **One artist from this city depicted a reclining goddess with her hand to her breast as her son holds a wreath and urinates in his *Venus and Cupid*. Another painted many figures in white robes as part of a procession in a square in this city. Painters from this city include Lorenzo Lotto and Francesco Guardi. The aforementioned square is next to a church whose statues include four Byzantine horses and some porphyry Tetrarchs. One family from this city included Giovanni, (*)** Jacopo, and Gentile, who painted its Piazza San Marco. One artist from this city showed boats on a body of water flanked on both sides by houses in his *View of the Grand Canal from Palazzo Balbi to the Rialto*. For 10 points, name this Italian home of the Bellinis, the subject of many paintings by Canaletto.
ANSWER: **Venice** [or **Venezia**]
<Nediger>

2. **Description acceptable. This object is lost at a drunken party whence its owner does not return "with ivy leaves in his hair," as his lover had hoped. Unlike its author's previous work, which had dealt with history up to the present day, this work forecasts the development of the future. This object's owner dies when he goes to Miss Diana's soiree to try and retrieve it. At the end of the play, it is revealed that the notes used to write this still exist, inspiring (*)** Thea Elvsted to try and reconstruct it. By publishing this work, its author could take the university professorship already promised to his friend, George Tesman. For 10 points, name this object, which the title character of an Ibsen play throws into the fire.
ANSWER: Eilert **Lovborg's manuscript** [accept anything like the **manuscript** from **Hedda Gabler**; do not accept "George Tesman's manuscript"]
<Bollinger>

3. **Nzinga Mbemba, a ruler of the Kongo Kingdom, took this name after converting to Catholicism. The last monarch of this name from one country was almost assassinated with his wife Victoria Eugenie on his wedding day and was blamed for his country's defeat at the Battle of Annual in Morocco. An earlier king with this name had a court that produced a law code called the *Siete partidas*; that tenth king of this name was known as (*)** "the Wise". Yet another king of this name called "the Brave" saw his anti-Muslim policies provoke a 1086 invasion from the Almoravids and ceded the eastern portion of his kingdom to El Cid. The aforementioned last king with this name foolishly allied himself with a dictator of his country, Primo de Rivera. For 10 points, give this common name of some thirteen kings of Spain.
ANSWER: **Alfonso** [or **Afonso**]
<Bentley>

4. **The height of these structures was found by Graf to be the strongest predictor of whether they are empty. William White suggested that the primary force acting on these entities is floor deepening rather than headward sapping, noting that cols, or passes, rarely form in them. Parallel to the back wall of one of these there can form a randkluft or a bergschrund. These objects are bounded on two sides by the headwall and the sill, and many contain lakes called (*)** tarns, which form from icemelt. The erosion of two of these structures towards each other can form an arête. For 10 points, name these amphitheatre-shaped rock formations that form at the head of valley glaciers.
ANSWER: **cirque**s [or **corrie**s; or **cwm**s]
<Watkins>

5. **This city was the base for a project that sent photographers across its country to capture its landmarks; that project was called the Heliographic Mission. A man with a striped hat sulks and looks away from a woman smoking in a photograph set in a bar in this city, Brassaï's *Lovers' Quarrel*. Berenice Abbott championed a man who documented this city; his photographs of it include one of a display of corsets in a store window and another showing a crowd looking up at an eclipse. One picture set in this city shows a man in mid-stride about to hit the wet ground which reflects his image, an example of its photographer's (*)** "decisive moments." Charles Marville and Eugène Atget extensively photographed this city before and after Baron Haussman's modernization of it. For 10 points, name this city, the setting of an Henri Cartier-Bresson landscape that includes the Eiffel Tower.
ANSWER: **Paris**
<Tabachnick>

6. **On the Moon, this character convinces Golan Trevize to accept the creation of Galaxia. On Three-Mile Island, this character is given psychic powers from his dying companion, Giskard. In another work, this character adopts the twin identities of the reporter Chetter Hummin and the scheming Eto Demerzel. This (*)** creation of Dr. Fastolfe appears in *The Caves of Steel* and *The Naked Sun* alongside Detective Elijah Baley. In another series, he convinces Hari Seldon to develop the theory of psychohistory. For 10 points, name this humanoid robot, who appears in a number of works by Isaac Asimov.
ANSWER: R. **Daneel** **Olivaw** [accept either]
<Bollinger>

7. **In November 2010, a national panic over a "mystery missile" flying over this state was resolved the same day a city in this state struck a blow against obesity by banning Happy Meal toys. This state was the site of the 2009 shooting of Oscar Grant by transportation policemen, and a May 2011 Supreme Court decision found prison overcrowding in this state to violate prisoners' Eighth Amendment rights. An appeal in a suit filed by Kristin M. Perry against this state alleges that (*)** Vaughn Walker was biased for not revealing his sexual preferences before deciding that a particular ballot initiative violated due process and equal protection; the appeals process for that case is complicated by the fact that Gerry Brown's government does not want to pursue it. For 10 points, name this state known for Proposition 8 and the love child of Arnold Schwarzenegger.
ANSWER: the great state of **California**
<Haddad-Fonda>

8. **One incident indicative of the problems in these entities was Girl X's rape and poisoning in 1997, and some of these entities were established by the 1937 Wagner-Steagall Act. Particularly bad examples of these entities are supposed to be revitalized by HOPE VI. Many of these entities are supervised by a cabinet department whose first head was African American Robert C. Weaver and whose current head is Shaun Donovan. FDR presided over the creation of (*)** Techwood, the first of these entities in the United States that was located in Atlanta. Notable examples of these include Pruitt-Igoe in St. Louis, Marcy and Queensbridge in New York City, and Ida B. Wells and Cabrini-Green in Chicago. For 10 points, name this type of low-income residence controlled by the government.
ANSWER: **public housing** **projects** [accept either underlined answer; accept equivalents that involve **government-funded housing**]
<Rosenthal>

9. **This composer marked the death of Emil Hartmann's son with an *Andante lamentoso* string piece called *At the Bier of a Young Artist*. The oboe doubles on the cor anglais in a work by this composer whose third movement consists of a Preludium followed by eleven variations on "My Jesus, make my heart to love thee." That work is this man's wind quintet. The movements of one of his symphonies represent (*)** choleric, phlegmatic, melancholy, and sanguine characters. The last movement of another sees the orchestra play in A major after two timpanis play the tritone in opposition to each other. For 10 points, name this Danish composer whose symphonies include *The Four Temperaments* and the *Inextinguishable*.
ANSWER: Carl August **Nielsen**
<Tabachnick>

10. **In this work, the speaker reassures himself by crying "Courage!" and noting that "this dull chrysalis/cracks into shining wings." The speaker of this work cries, "I prophesy that I shall die to-night/a quarter before twelve." The title character of this work has born "rain, wind, frost, heat, hail, damp" for (*)** "thrice ten years" and asks to be "caught up" into the Lord's rest. That title character calls himself a "sinner viler than you all," although the "silly people take [him] for a saint." For 10 points, name this dramatic monologue about a holy man who sits atop a pillar for thirty-seven years, written by Tennyson.
ANSWER: "**St. Simeon Stylites**"
<Bollinger>

11. **This theorist denied that American exceptionalism was the nature of things, but defined it as a historical process, and in one of his works, he described its impact on victory in World War II. This author heavily borrowed from Ernst Mayr's descriptions of "teleonomic processes" for one work, which sought to integrate sociology with all of the other social sciences. Themselves developer of the (*)** AGIL paradigm and author of *The Social System,* for 10 points, name this man who reformulated Weberian theory into a voluntaristic system in his work *The Structure of Social Action* and who created symbolic interactionism.
ANSWER: Talcott **Parsons**
<Watkins>

12. **One ruler with this given name succeeded the Mahdi, invaded Ethiopia, and ruled Khartoum until his defeat at Omdurman in 1898. Another ruler of this name represented Mecca in the Ottoman parliament, employed John Bagot Glubb to lead his army, supported the Peel Commission, and is alleged by Avi Shlaim to have colluded with Golda Meir to gain control of the West Bank. That ruler was the son of Sharif Husayn and older brother of (*)** Faysal. Another ruler of this name succeeded his half-brother Fahd in 2005, while in 1999 another ruler of this name succeeded his father, the man who crushed the PLO in Black September and recognized Israel. What given name is shared by, for 10 points, the current kings of Saudi Arabia and Jordan?
ANSWER: **'Abdallah** [accept **'Abdallah** ibn Muhammad al-Ta'isha until the word "Mecca"]
<Haddad-Fonda>

13. **This process employs a submonolayer of potassium covering the catalyst as an electronic promoter, a configuration protected against sintering by a framework of alumina and calcium oxide, which work as structural promoters. Alwin Mittasch developed the modern, cheaper catalyst for this process. The elucidation of this process's mechanism won the 2007 Nobel Prize for Gerhard (*)** Ertl. The occasional second namesake of this process received that credit for his design of an industrial-scale cast iron reactor that could withstand the two hundred atmospheres and five hundred degrees Celsius necessary to break the triple bond concerned. For 10 points, name this reaction, an artificial route to fix nitrogen gas into ammonia.
ANSWER: **Haber**-Bosch process
<Watkins>

14. **Shortly before this event, one figure commanded the sun and moon not to shine so that he could secretly steal an herb of immortality. Another figure during this event had to be dragged outside the border of Pallene so that he would lose his strength. Zeus inspired one figure involved in this event with lust so that he would try and rape Hera. Before this event, which saw the deaths of (*)** Porphyrion and Alcyoneus, it was foretold that the gods would need a mortal on their side to survive, for which role they chose Heracles. It saw the Fates using bronze cudgels and Hecate using torches to fight against a group of aggressors sent by Gaia. For 10 points, name this invasion of Mount Olympus by large beings.
ANSWER: **Gigantomachy** [or **Gigantomachia**; or **Giants' War**; or anything about fighting **giants**; do not accept **Titanomachy**]
<Bollinger>

15. **Under certain circumstances, this practice can only be undertaken after a waiting period called an *'idda*. Travelers make use of the *misyar* (mis-YAR) form of this practice, which can be ended by *khula* or *talaq*. It requires the arrangement of a *mahr* and a question and answer that must be repeated out loud three times. A *mut'a* (MUT-ah) is a controversial form of (*)** temporary one that some Shi'ites can enter into for fixed time periods. The Qur'an requires a man to be equally just in order to do it more than once, which must have been a challenge for Muhammad because he did it eleven times. For 10 points, identify this practice that Islamic law permits other men to do only four times.
ANSWER: **marriage** [or **getting married**; or *nikah*]
<Haddad-Fonda>

16. **The second empire of these people was dominated by the House of Asen. They were unified by a man named Kurt, and their first empire was founded by Asparukh. One member of this group, Tervel, was granted the title of Caesar after helping put Justinian II back on the throne of the Byzantine Empire. Boris I introduced Christianity to these people, although Symeon the Great later had to restore that religion. More recently, the so-called Umbrella Murder of Georgi Markov was carried out by (*)** Todor Zhikov, a long-time leader of the modern-day country associated with these people. A victory against them at the 1014 Battle of Kleidion led to a certain epithet being given to Basil II. For 10 points, name these people who lend their name to a modern day country with capital at Sofia.
ANSWER: the **Bulgar**s [or **Bulgarian**s]
<Bentley>

17. **Underproduction of this substance in concert with thyroiditis is called Schmidt syndrome. This substance inhibits IgA and IgM and inhibits IL-2 response to suppress T-cell proliferation. It raises blood pressure by increasing vessel response to epinephrine. Symptoms of an overabundance of this hormone include (*)** weight gain in the torso and face, while symptoms of its deficiency include hyperpigmentation; those diseases are called Addison's and Cushing's disease, respectively. For 10 points, name this steroid hormone released by the adrenal gland in response to stress.
ANSWER: **cortisol** [or **hydrocortisone**; do not accept or prompt on "cortisone"]
<Kirsch>

18. **One of these individuals instantly ages 20 years and is sent to assassinate a shady figure called the Patron by aliens to prevent a nuclear terrorist attack. As a set, these characters are inspired by the composer of two eponymous CDs and the film score of *A Quiet Life*; that inspiration is the subject of *Rouse Up O Young Men of the New Age!* One of these who travels with an enormous fat man is given the nickname (*)** "Eeyore," while yet another is spared the death by diluted milk and sugar water recommended for him by doctors. The earlier examples, from *The Pinch Runner Memorandum* and *Teach Us to Outgrow Our Madness*, are both named Mori. For 10 points, name this class of individuals, one of whom gives Bird anxiety in *A Personal Matter*, a fixture inspired by Hikari Oe in nearly all literary works by Kenzaburo Oe.
ANSWER: mentally **disabled** male **child**ren in the works of Kenzaburo Oe [accept **disabled son**s; accept mentally **retarded** or mentally **challenged** or intellectually **disabled** for "mentally disabled"; do not accept "autistic" at any point; prompt "Oe characters" throughout; prompt "children with brain hernias" or "children with alleged brain hernias" despite it being ambiguous with regards to the enormous fat man clue; accept "people named **Mori**" and equivalents until "diluted milk" is read]
<Jackson>

19. **Four types of this phenomenon are said to be blessings from the gods according to Socrates's second speech in Plato's *Phaedrus*, and Derrida insisted that it could not affect the validity of the *Cogito*. One work about this phenomenon described its growing prevalence after the Renaissance as leper colonies began to close and proposed a historical "Great (*)** Confinement." Outside that Foucault work, a man with this condition holds up a lamp in the marketplace during Nietzsche's *The Gay Science;* that man declares "God is dead." For 10 points, name this mental state contrasted by Foucault with "Civilization," to which Nietzsche himself eventually succumbed.
ANSWER: **madness** [accept **mania**, **insanity,** or other close equivalents until "Civilization" is read; prompt them thereafter]
<Jackson>

20. **The reciprocal of the black hole entropy, called the Immirzi parameter, appears in a "loop" theory of this force. Objects influenced by this force travel along geodesics. The Laplace-Runge-Lenz vector is a constant of motion resulting from this force, whose strength is the subject of the heirarchy problem. The Kepler problem in the study of this force has only one exact modern solution, named for (*)** Schwarzschild. This force can cause the appearance of additional images due to intervening galaxy clusters in a phenomenon known as "lensing." For 10 points, name this force described by an inverse-square law with the product of each object's mass in the numerator, a law developed by Newton.
ANSWER: **gravity** [accept **loop quantum gravity** before "loop" is read]
<Watkins>

21. **Liaquat Ahamed wrote a recent history about the failures of four men in this profession, Hjalmar Schacht, Emile Moreau, Montagu Norman and an American named Benjamin Strong. One prominent leader in this industry was hurt by the death of Prince Bishop of Brixen, but still was able to receive the Maestrazgo from a gracious Francis I. Another man in this profession rose to prominence as the Court Factor for Wilhelm of Hesse and was known to his family as (*)** Mayer Amschel. In the United States, the Gramm-Leach-Bliley Act largely repealed reforms made in this industry by the 1933 Glass-Steagall Act. During the Middle Ages, it suffered due to bans on usury. For 10 points, name this occupation of families like the Fuggers and Rothschilds.
ANSWER: **banking** [or **banker**s; accept equivalents like **finance**; do not accept "economists"]
<Bentley>

22. **Late onset of this disease is correlated with having two mutant alleles of ApoE4. Galantamine and rivastigmine are common treatments for this illness, in which overexcitement of glutamate receptors can cause nerve cell death. Microtubule disintegration occurs in this disease due to hyperphosphorylation of (*)** tau protein. Sufferers of this disease exhibit degeneration of the cerebral cortex, as well as aggregations of hyperphosphorylated tau protein, neurofibrillary tangles, and amyloid plaques. For 10 points, name this most common form of dementia.
ANSWER: **Alzheimer**'s disease
<Kirsch>

23. **One character in this novel, Ossip Gregorovius, has three mothers "depending on type of drunkeness," and this novel ends with a very ambiguous suicide by the protagonist. The protagonist meets Talita, the wife of his bizarre double Traveller. The protagonist becomes obsessed with getting killed by Traveler, after going to work in a circus and then a mental institution because he left his friends in the** (*) Serpent Club in Paris after Rocamadour dies. One chapter is titled "Written by Morelli in the hospital," suggesting the novel may in fact be Morelli's notebook, while the title refers to the protagonist's confused love for La Maga. For 10 points, name this nonlinear Cortazar novel about the bohemian writer Horacio Oliveira that contains ninety nine expandable chapter.
ANSWER: _**Hopscotch**_ [or _**Rayuela**_]
<Guth>

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Bonuses

1. For 10 points each, name some composers of German-language operas.
[10] This man wrote in both Italian and German; some works in the latter include *The Abduction from the Seraglio* and *The Magic Flute*.
ANSWER: Wolfgang Amadeus **Mozart** [or Johannes Chrysostomus Wolfgangus Theophilus **Mozart**]
[10] This composer's sister, Adelheid Witte, wrote the libretto for his most famous opera. That work, in which a witch turns into a gingerbread cookie, is *Hansel and Gretel*.
ANSWER: Engelbert **Humperdinck**
[10] This popular Weimar composer wrote an opera in which the composer Max and the singer Anita fall in love and the title black musician steals Daniello's violin, the jazz-influenced *Jonny Strikes Up*.
ANSWER: Ernst **Krenek**
<Tabachnick>
[Guy Tabachnick wants to see tears.]

2. Identify the following about some Parliaments from English history, for 10 points each.
[10] The Addled Parliament convened during the reign of this first Stuart king of England.
ANSWER: **James I** [or **James VI of Scotland**; do not accept or prompt on just "James VI"]
[10] This young king was knighted at the Parliament of the Bats, a meeting which got its name from the bludgeons that the Duke of Gloucester and his followers brought instead of swords. This monarch would later be captured at the Battle of Northampton in 1460.
ANSWER: **Henry VI**
[10] The Useless Parliament of Charles I restricted the king's right to obtain tonnage and poundage to a yearly grant. That helped lead to this 1629-1640 period where Charles refused to call Parliament, despite levying the ship money tax.
ANSWER: **Personal Rule** [or **Eleven Years' Tyranny**]
<Bentley>

3. Differential equations are common models for a wide variety of phenomena. For 10 points each:
[10] One such phenomenon is this propagating deformation of a medium, which can be caused by dropping a mass into water.
ANSWER: __wave__s
[10] The wave equation can be transformed by separation of variables into two of this type of differential equation. Setting some differential operator applied to a variable equal to a multiple of that variable, it is named by analogy to linear algebra.
ANSWER: __eigenvalue__ problems
[10] A very general eigenvalue problem, of which the wave equation and much more are special cases, is studied in this doubly-eponymous theory.
ANSWER: __Sturm-Liouville__ theory
<Watkins>

4. For 10 points each, identify these places that Marco Polo visited during his trek across Asia.
[10] The farthest south that Marco Polo reached overland was the city of Bagan, the center of a kingdom conquered by the Mongols in 1287 after they unwisely refused to pay tribute to Kublai Khan. Bagan lies on the Irrawaddy River in this modern-day country's Mandalay Province.
ANSWER: Republic of the Union of __Myanmar__ [or __Burma__]
[10] Marco Polo wrote about the high-quality silks he saw in Gilan [gee-LAN], which is today a province centered around this country's major Caspian Sea port of Rasht.
ANSWER: Islamic Republic of __Iran__
[10] Marco Polo called this Chinese city "the finest and noblest in the world" because it had fully 12,000 stone bridges, if perhaps only in Marco Polo's head. Today, this city is the capital of China's Zhejiang Province in the Yangtze Delta and is known for its Longjing tea.
ANSWER: __Hangzhou__
<Haddad-Fonda>

5. He set Richard Dehmel's *Transfigured Night* to music years before developing his twelve-tone system. For 10 points each:
[10] Name this composer of *Gurre-Lieder* and the opera *Moses und Aron*, which he misspelled so its title wouldn't have thirteen letters.
ANSWER: Arnold __Schoenberg__
[10] In *Pierrot Lunaire*, Schoenberg used this vocal technique somewhere between singing and speaking. A practitioner is supposed to hit the intended pitch and immediately fall or rise.
ANSWER: *__Sprechstimme__*
[10] This disciple of Schoenberg wrote remarkably short, condensed works like his *Five Pieces for Orchestra* and *Six Bagatelles for String Quartet*. His opus 1, is a popular *Passacaglia for Orchestra*.
ANSWER: Anton Friedrich Wilhelm von __Webern__
<Tabachnick>

6. Material for this operation largely came from the CIRUS and PURNIMA plants and it is alternately called Pokhran-I. For 10 points each:
[10] Identify this codename for India's first nuclear test, whose name references Siddhartha Gautama.
ANSWER: **Smiling Buddha**
[10] India was led at the time of the nuclear tests by this woman, who would eventually be killed by two of her own Sihk bodyguards after ordering an assault on a temple at Amritsar.
ANSWER: **I**ndira Priyadarshini **Gandhi**
[10] Although India and Pakistan agreed to the Lahore Declaration after both nations carried out nuclear tests, this war soon broke out. It started with Operation Vijay, where Pakistani troops dressed as Mujaheddin moved into areas like Batalik and Dras.
ANSWER: **Kargil** War [or **Kargil** Conflict]
<Haddad-Fonda>

7. In this novel, Beba Longoria is eventually referred to as "Babel" because she causes a "confusion of tongues." For 10 points each:
[10] Name this experimental novel which follows Bustrofedon, who wishes to "be language," and Silvestre, a struggling writer. It opens at the Tropicana cabaret.
ANSWER: *Three Trapped Tigers* [or *Tres Tristes Tigres*]
[10] *Three Trapped Tigers* was written by this Latin-American author.
ANSWER: Guillermo **Cabrera Infante**
[10] Guillermo Cabrera Infante hails from this country, also the home of Jose Marti.
ANSWER: **Cuba**
<Bollinger>

8. It includes a section on Wilt Chamberlain's salary and compares democracy to "demoktesis," a system where people sell shares of themselves. For 10 points each:
[10] Name this Robert Nozick text which denounces utilitarianism by describing a pleasure-generating "experience machine," equates taxation with forced labor, and claims that only the minimal state is legitimate.
ANSWER: *Anarchy, State, and Utopia*
[10] *Anarchy, State, and Utopia* was written as an attack on this more liberal thinker, whose emphasis importance of fairness to achieve an equal society were outlined in his *A Theory of Justice*.
ANSWER: John **Rawls**
[10] In order to achieve fairness, Rawls suggested retreating behind this construct, in which no party knows what their station in life would be and designs rules from that place.
ANSWER: **veil of ignorance**

9. Answer some questions about prints, for 10 points each.
[10] This artist made a series of 41 woodcuts called *Dance of Death*, which he published five years after painting *The Ambassadors*.
ANSWER: Hans **Holbein** the Younger
[10] *The Sleep of Reason Produces Monsters* is one of this series of etchings by Francisco Goya which often show fantastic scenes.
ANSWER: Los *Caprichos* [or *The Caprices*]
[10] This Renaissance artist showed ten figures, most of whom are brandishing swords, in his busy engraving *Battle of the Nudes*.
ANSWER: Antonio del **Pollaiuolo**
<Tabachnick>

10. She was the first president of the American Equal Rights Association. For 10 points each:
[10] Name this Quaker, an early feminist who wrote *Discourse on Woman*.
ANSWER: Lucretia **Mott** [or Lucretia **Coffin**]
[10] Mott was a contemporary of Julia Ward Howe, who co-founded the American Woman Suffrage Association. This woman is best known for writing this patriotic tune, which begins, "Mine eyes have seen the glory of the coming of the Lord."
ANSWER: "The **Battle Hymn of the Republic**"
[10] This other early feminist attacked marriages of "convenience and utility", instead arguing that they should be made from a "meeting of the souls" in her work, *On Woman in the Nineteenth Century*. She also edited *The Dial*.
ANSWER: Margaret **Fuller** [or Sarah Margaret **Fuller** Ossoli]
<Nediger>

11. Name these William Carlos Williams works, for 10 points each.
[10] In this work, Williams confesses, "I have eaten/the plums/that were in/the icebox."
ANSWER: "**This is Just to Say**"
[10] One book of this Williams work describes how Merselis van Giesen's wife was tormented by a witch. This poem in five books begins with "The Delineaments of the Giants" and describes the title city in New Jersey.
ANSWER: *Paterson*
[10] In this poem, Williams describes grass and the "stiff curl of wild-carrot leaf," which "enter the new world naked" next to "the road to the contagious hospital." It titles the collection which contains "The Red Wheelbarrow."
ANSWER: "**Spring and All**"
<Bollinger>

12. Answer some questions about non-equilibrium thermodynamics, for 10 points each.
[10] The fluctuation-dissipation theorem was postulated by this information theorist, who worked with Claude Shannon on sampling techniques.
ANSWER: Harry **Nyquist**
[10] Another result of non-equilibrium thermodynamics are these relations, wherein combined heat and matter flows are described with a combination of Fourier's and Fick's laws and the cross-coefficients are shown equal. They are named for the scientist who first solved the 2D Ising model.
ANSWER: **Onsager** reciprocal relations
[10] Onsager tried to develop a principle to explain non-equilibrium heat flow that maximized the amount of *this* produced. Later, Prigogine proposed the very opposite. In information theory, Shannon defined this quantity to be proportional to the microstate sum of probability times log probability.
ANSWER: **entropy**
<Watkins>

13. She opposed the earlier "garden city" and Radiant City paradigms of Ebenezer Howard and Le Corbusier, and rejected urban renewal practices such as bulldozing in favor of mixed-use neighborhoods. For 10 points each:
[10] Name this pioneering urban thinker, the author of *Death and Life of Great American Cities*.
ANSWER: Jane **Jacobs**
[10] Jane Jacobs fought against expressways in this city, whose subway stops off at unique neighborhoods such as Washington Heights, Alphabet City, Tribeca, and Greenwich Village.
ANSWER: **New York** City [or **NYC**; prompt on "Manhattan"]
[10] Jacobs's *Death and Life of Great American Cities* claims that these urban structures provide the triple benefit of safety, casual contact, and good child rearing if they are frequently occupied. She described their vibrancy as a namesake "ballet."
ANSWER: **sidewalk**s [or **pavement**s]
<Jackson>

14. The Treaty of Passarowitz was signed after this man secured a victory at the Siege of Belgrade. For 10 points each:
[10] Identify this man who once killed 30,000 enemy troops at the cost of only 500 of his own soldiers at the Battle of Zenta.
ANSWER: Prince **Eugene of Savoy** [or François-**Eugène**, prince de **Savoie**-Carignan; or Franz **Eugen**, Prinz von **Savoyen**-Carignan]
[10] The Battle of Zenta was a part of the Great Turkish War, whose turning point came in 1683 when the Habsburgs, with the help of John Sobieski's Polish relief force, turned back the Ottomans in the siege of this city.
ANSWER: **Vienna**, Austria
[10] The Great Turkish War was ended by this 1699 treaty, which elevated the Habsburgs to premier status in Europe and effectively started the Ottomans' period of decline.
ANSWER: Treaty of **Karlowitz** [or Peace of **Karlowitz**; or Treaty of **Karlovci**; or Peace of **Karlovci**]
<Austin>

15. Name these French authors, for 10 points each.
[10] This author of "The Secret Room" wrote about the detective Wallas, who kills Daniel Dupont while looking for Dupont's murderer, in his *nouveau roman*, *The Erasers*.
ANSWER: Alain **Robbe-Grillet**
[10] This author chronicled the adventures of Ferdinand Bardamu in *Journey to the End of Night* and *Death on the Installment Plan*.
ANSWER: Louis-Ferdinand **Celine** [or Louis-Ferdinand **Destouches**]
[10] This author of *The Crime of Sylvester Bonnard* satirized human civilization in his *Penguin Island*.
ANSWER: Anatole **France**
<Bollinger>

16. Along with infertility and hypogonadism, this illness often causes gynecomastia, or unusual growth of the breast tissue. For 10 points each:
[10] Name this syndrome in which a male has an extra X chromosome.
ANSWER: **Klinefelter's** syndrome
[10] Diseases such as Kleinfelter's that result in aneuploid cells often result from this occurrence during meiosis. This is the failure of sister chromatids or homologous chromosomes to separate.
ANSWER: **nondisjunction** [accept word forms]
[10] Nondisjunction is not the only meiotic event that can cause genetic diseases. Chromosome translocation, in which nonhomologous chromosomes exchange genetic material, can result in diseases such as this one caused by a deletion on chromosome 5. Infants with it make the namesake mewing sound.
ANSWER: **cri du chat** syndrome [or **Lejeune**'s syndrome[
<Kirsch>

17. This fictional king supposedly possessed a mirror which allowed him to see all the earthly provinces, and his Kingdom bordered the Earthly Paradise. For 10 points each:
[10] Name this legendary king from medieval Europe who supposedly ruled a Christian nation lost among the Eastern Muslims and Pagans.
ANSWER: **Prester John** [or **Presbyter John**]
[10] The legends of Prester John may have sprung from the proselytizing this disciple did in India. He's also well known for insisting on seeing the wounds on the Resurrected Christ's hands.
ANSWER: **Thomas** the Doubter
[10] This Church of the East may also have contributed to legends of Prester John. It's named for a Patriarch of Constantinople who believed in a difference between the human and divine natures of Christ.
ANSWER: **Nestorian**ism [or **Nestor**ian Church]
<Meade>

18. This man was raised at the court of King Nabur the Unruly, and he was born from his father's incestuous relationship with Queen Morgause. For 10 points each:
[10] Name this wicked knight, the illegitimate son and eventual slayer of King Arthur.
ANSWER: Sir **Mordred**
[10] Sir Mordred and King Arthur killed each other at this bloody battle.
ANSWER: Battle of **Camlann**
[10] This other survivor of the Battle of Camlann is ordered by King Arthur to throw Excalibur back into the lake. He retires to a hermitage.
ANSWER: Sir **Bedivere**
<Bollinger>

19. This phenomenon is classified as specular or diffuse. For 10 points each:
[10] Name this process, whereby a wavefront changes direction at the interface between two media.
ANSWER: **reflection**
[10] This model of diffuse reflection assumes the surface's apparent brightness is the same from all directions. Its namesake's cosine law for radiant intensity produces this model.
ANSWER: **Lambertian** reflectance [or Johann Heinrich **Lambert**'s cosine law]
[10] Fiber optics rely on this phenomenon, which occurs above the critical angle.
ANSWER: **total internal** reflection
<Watkins>

20. Name these works by Samuel Richardson, for 10 points each.
[10] In this novel, the title character is cruelly imprisoned and molested by Mr. B----, but bizarrely decides to marry him anyway. It is subtitled "Virtue Rewarded."
ANSWER: *Pamela, or Virtue Rewarded*
[10] The title character of this novel is "rescued" from her oppressive family by Robert Lovelace, who drugs and rapes her in Mrs. Sinclair's brothel. The title character, Miss Harlowe, dies in misery, and William Morden kills Lovelace in revenge.
ANSWER: *Clarissa, or The History of a Young Lady*
[10] The title character of this novel fails to marry the Italian Lady Clementina because she is afraid of becoming a Protestant. He rescues Harriet Byron from Sir Hargrave Pollexfen and later marries her.
ANSWER: *Sir Charles Grandison*
<Bollinger>

21. The state's creation was sparked by a coup led by General Jack Gowon, who refused to recognize this Odumegwu Ojukwu-led state's existence. For 10 points each:
[10] Identify this state which formed its capital at Enugu.
ANSWER: Republic of **Biafra**
[10] The Republic of Biafra was a breakaway republic from this country. In addition to the Igbo, other large ethnic groups in this country include the Hausa and Yoruba.
ANSWER: **Nigeria**
[10] Many of Nigeria's post-colonial problems arose from what Harold Macmillan called the "criminal" divisions of tribal territory in Africa. Macmillan would go on to state that whites must accept "this growth of national consciousness" as a political fact in this speech given to the South African parliament.
ANSWER: The **Wind**s **of Change** Speech
<Bentley>

22. Answer these questions about the works of Federico García Lorca, for 10 points each.
[10] The title character of this play by Lorca ends up killing her husband, who, unlike her, does not want to have children.
ANSWER: *Yerma*
[10] Leonardo and the Groom kill each other due to the connivance of Death and the Moon in this Lorca play.
ANSWER: *Blood Wedding* [or *Bodas de sangre*]
[10] One of Lorca's poetry collections is titled "The Poet in" [this city], which is also the setting for several works by Paul Auster and Don DeLillo.
ANSWER: **New York City**
<Bollinger>

23. This quantity is the pressure exerted by a gas on the liquid surface beneath it at equilibrium. For 10 points each:
[10] Name this quantity, which for multiple substances is related to their relative prevalence by Raoult's law.
ANSWER: **vapor pressure**
[10] This equation gives the coexistence curve between two phases of matter, including vapor-liquid equilibria. It gives the temperature derivative of pressure as the latent heat over the product of temperature with the volume change due to the phase transition.
ANSWER: **Clausius-Clapeyron** relation
[10] This equation gives vapor pressure with respect to temperature for a pure substance. Setting one of its parameters to zero gives the August equation, which approximates the log of pressure as A minus B over temperature.
ANSWER: **Antoine** equation
<Watkins>