

Tossups:

1. A manifesto for the architecture of this movement was written by Antonio Sant'Elia, an important architect of this style. Artists such as Mikhail Larionov of Rayonism were influenced by this style, and the poet Vladimir Mayakovsky was a prominent Russian member of this movement. The Manifesto of this movement claimed that "a speeding bullet is more beautiful than the Mona Lisa," and was written by Filippo Marinetti. Works like *The City Rises* and *Unique Forms of Continuity in Space* are paragons of this style. Artists like Gino Severini, Giacomo Balla, and Umberto Boccioni were artists in, FTP, what early 20th century Italian art style that worshipped speed and violence?

ANSWER: **Futurism**

2. This poem describes how "All the world wonder'd" at the bravery and horrible consequences of the action described, after which "They that had fought so well / Came thro' the Jaws of Death / Back from the mouth of hell". Though the titular group knew that "Some one had blunder'd", they are described as doing their duty unquestioningly, for "Theirs not to reason why / Theirs but to do and die". FTP, "Into the valley of death / Rode the six hundred" in what poem commemorating the title group's defeat at the Battle of Balaclava by Alfred Lord Tennyson?

ANSWER: "The **Charge of the Light Brigade**"

3. Collaborators on this artist's upcoming final album include Jay-Z, Lil' Wayne, Nas, and Eminem. That album will be co-produced by Scott Storch and, in preparation for its release, Drinks Americas has prepared a special line for this artist labeled "Aftermath Cognac." That album, *Detox*, has been in production for over 7 years, since this artist's last solo album was released in 2000, but oddly titled "2001" More famous for a collaboration with Tupac on "California Love" and for multiple collaborations with Snoop Dogg, most famously on "Nothing but a G Thang", FTP name this Los Angeles rapper and producer of "The Chronic," a former member of N.W.A.

ANSWER: **Dr. Dre**

4. One minor character in this novel is a kindly distant relative of the protagonists' family who offers the protagonists a cottage to live in when they are forced out of their manor home by their stepbrother and his wife. In addition to Sir John Middleton, another character is his mother-in-law, an insipid woman who fancies herself the protagonists' matchmaker named Mrs. Jennings. Many men, including John Willoughby, Edward Ferrars, and Colonel Brandon, pursue the protagonists' hands in marriage, but only Ferrars and Brandon succeed. For ten points, Elinor and Marianne Dashwood embody the title concepts, respectively, in what classic Jane Austen romance?

ANSWER: **Sense and Sensibility**

5. There are currently three classes of these objects recognized by astronomers, one in which the decay of an extremely strong magnetic field generates electromagnetic energy.. The first of these were observed by Jocelyn Bell, and magnataurs are another notable class of these objects. For some of these objects, the regularity of their emission of radiation is as precise as an atomic clock. The millisecond variety of these objects has allowed scientists to test general relativity in an intense magnetic field. After their formation during supernovae, they burn themselves out in about 50 million years, ceasing to spin before becoming neutron stars. FTP, name this class of rapidly rotating neutron stars which emit electromagnetic radiation at regular intervals.

ANSWER: **pulsars**

6. A positive effect of this is known as the Tobin effect, and states that a moderate level this can increase investment. One negative effect of this is represented by shoe leather costs. A Cost-push type of this can result in a wage spiral. A relation between this and another quantity was derived from Okun's law, which gives the relation between unemployment and GDP. According to the quantity theory of money, this quantity will increase with the difference between the money supply and real output. The consumer Price index generally monitors this quantity. An inverse relationship between employment and this is predicted by the Philip's Curve. FTP, identify this quantity which everyone seems to be worried about all the time, the decrease in the purchasing power of money and the raising of prices.

ANSWER: **Inflation**

7. Richard Dawkins referred to this man's namesake teapot in order to show that one did not have to prove that God did not exist. He was a noted pacifist, protesting everything from World War I to the Vietnam War, and also spoke out against nuclear proliferation and Soviet totalitarianism. He is considered a founder of analytic philosophy, though his attempt to resolve all problems of mathematics was destroyed by Gödel, and his assertions that philosophy could create new knowledge was refuted by his greatest student Ludwig Wittgenstein. This man's namesake paradox concerns the set of all sets that are not members of themselves and his most famous popular works include "What I Believe", *Problems of Philosophy*, and *Why I am Not a Christian*. For ten points, name this British philosopher who wrote *Principia Mathematica* together with Alfred North Whitehead.

ANSWER: Bertrand **Russell**

8. This man became the first Prince of Wales never to become king when he died one year before his father. Many of this man's campaigns were chronicled by Froissart, while his Najera campaign saved his ally Pedro the Cruel of Spain from a coup. Although this man wasn't much concerned with Spanish matters, his brother, John of Gaunt, was. Capturing John the Good at the battle of Poitiers, this man also won victories at Crecy and Calais at the outset of the Hundred Years' War. The father of Richard II, this man never became king because he died one year before his father, Edward III. FTP, identify this English prince, known for the nickname that his colorful armor he wore into battle gave him.

ANSWER: **Edward the Black Prince**

9. At the end of this novel, a man named Napoleon is hired to teach new agricultural techniques, and another character brings milk to the children of Ndotsheni. (EN-do-SHEE-nee). That character is the father of a man who, inspired by Abraham Lincoln, works to bridge the gap between blacks and whites. During his quest to find his son, the protagonist is aided by Msimangu (Si-MAN-goo) and encounters his brother John, who has become involved in local politics. That son originally left for the city to find his aunt, but ends up seeking a life of crime culminating in the murder of Arthur Jarvis. FTP, this is what novel sees Stephen Kumalo travel to Johannesburg in search of his son by Alan Paton?

ANSWER: **Cry, the Beloved Country**

10. This event, which is indirectly caused by the Madden-Julian Oscillation, typically occurs every three to seven years and has far-reaching effects, even occasionally in Asia and North America. Episodes of this cyclic event are indicated by increases of more than half a degree centigrade in sea surface temperature and series of Kelvin waves. It typically begins with unusually warm ocean conditions along the west coast of South America and faltering of the trade winds. This event has devastating impacts on fishing, agriculture, and local weather in tropical areas and can result in climatic anomalies elsewhere. FTP, name this event which alternates with its cold phase, La Niña.

ANSWER: **El Niño**—Southern Oscillation

11. This deity is the father of Nabu, god of wisdom, and although he is similar to the Sumerian god Shamash, he is actually a son of the water god Ea. The god of pestilence Erra once terrorized the earth after convincing this god to leave it unprotected. The Enuma Elish lists fifty names of this storm god, and although he was the basis for the protagonist of the apocryphal book *Bel and the Dragon*, his own symbol was a dragon named Mushhushu. The most famous feat of this god is his capture of the dragon Tiamat in his net and his destruction of her using the winds. For ten points, name this god who won back the Tablets of Destiny from Tiamat, and became the head of the Babylonian pantheon.

ANSWER: **Marduk**

12. Emperor Charles VI had attempted to stave off this conflict by countermanding the Salic Law requirement that only males receive royal inheritance. This nearly pan-European conflict merged with the War of Jenkins's Ear between Britain and Spain. The cause of this war was the issuance of the Pragmatic Sanction that named the daughter of Charles VI ruler of the namesake country. Known in the American colonies as King George's War, It ended when Maria Theresa was left in charge but her country had to cede Silesia to Prussia. Ended with the Treaty of Aix-la-Chapelle, FTP, identify this 18th century war whose name refers to the disputed kingship of an alpine Central European state.

ANSWER: War of the Austrian Succession (prompt on King George's War before mention)

13. During the Revolutions of 1848, this political figure lost favor among his people for using cannons to put down popular rebellions, earning the infamous moniker the “Prince of Grapeshot.” In 1878, seven years after ascending to his most famous position, he became the target of two assassination attempts by two disaffected anarchists with ties to the Social Democratic Party: the first was executed by a plumber named Max Hodel, and the other by an agriculture student, Karl Nobiling. Both were angered by this man’s staunch support of conservatism and militarism as well as by his appointing of Otto von Bismarck as Prime Minister of Prussia. For ten points, name this first Emperor of a unified Germany.

ANSWER: Kaiser Wilhelm I of Germany (accept Wilhelm the Great)

14. The first step towards their discovery was the finding that two different metals touched to different parts of a frog nerve make the frog’s muscles contract. Because their reduction potentials cannot be determined on an absolute scale, they are calculated by using the species in question in one of these along with a hydrogen half-cell, which is taken as the zero baseline of the reduction potential scale. Their function is characterized by the Nernst equation, which takes into account the concentration of the reacting species, and they generate an electrical potential by separating a favorable reduction from a favorable oxidation in a process underlying the function of batteries. FTP, name this setup consisting of two metal electrodes each dipped in a solution of a salt of the metal, with each half-cell connected by a salt bridge to maintain electrical neutrality.

ANSWER: galvanic or voltaic cell

15. Emil Post modified one of these constructs to use a symbol space and a two-way infinite sequence of boxes, while another modification of these constructs use an oracle to tell it when to go after stopping at state o. One that reads a blank symbol and halts after a time is known as the busy beaver, and one of these constructs exists for every terminating algorithm according to the thesis of their namesake and Church. Consisting of a table, a read head, and a tape, FTP, name these simple constructs, named for the guy who decoded the German Enigma cypher and killed himself with a poisoned apple.

ANSWER: Turing machine

16. The son of Marie Josephe of Saxony and the Dauphin Louis Ferdinand, this political figure’s marriage to a certain Austrian Hapsburg princess was overwhelmingly opposed by his native country, due to the fact that Austria had dragged his nation into a costly defeat at the hands of Great Britain during the Seven Years War. Upon ascending to the throne, such economic advisers as Jacques Necker and Turgot dragged his nation into further disarray, a situation exacerbated by the perpetuation of the antiquated socio-economic structure of the “Estates of the Realm.” For ten points, name this indecisive husband of Marie Antoinette of Austria and the last king of France before the outbreak of the French Revolution.

ANSWER: Louis XVI

17. One novel by this author tells of a Midwestern family that moves from Apex, and whose daughter, Undine Spragg, attempts to enter New York high society, *The Custom of the Country*. And social climbing in New York society forms the plot of another more famous novel by this author about Lily Bart. Another novel by this author tells the story of the “smash-up” that destroyed the life of the titular farmer’s love for his sickly wife Zeena’s cousin Mattie. *The House of Mirth* and *Ethan Frome* are novels by, FTP, what American author who wrote about Newland Archer’s love for the Countess Olenska in *Age of Innocence*?

ANSWER: Edith Wharton

18. All four drummers are instructed to use sponge-headed drumsticks at the end of this piece's third movement, a passage for four solo timpani that depicts distant thunder. In the fifth and final movement, a prominent theme returns as a shrill solo for E-flat clarinet. That theme is derived from the composer's earlier cantata *Herminie*. The third movement uses an oboe and an English horn to depict a duet between two shepherds, and the last movement quotes the *Dies irae* melody. Featuring movements such as "A Ball," "Reveries – Passions," and "Dream of a Witches' Sabbath," all five movements use a tune depicting the actress Harriet Smithson. Featuring the *idée fixe*, for 10 points, identify this programmatic symphony by Hector Berlioz.

ANSWER: Symphonie fantastique

19. Colonel Voronstev is the protagonist of a historical novel by this author, in which he under the command of the real-life General Alexander Samsonov, who commits suicide at the end of the book, *August 1914*. The title character of another novel by this author is forced to clean the guardhouse and is not allowed to report sick, because only a limited number of workers are allowed to exempt. While, Pavel Rusanov and Oleg Kostoglotov are treated in the titular section of a Ukrainian hospital in another work. FTP, this is what Russian Nobel Prize-winning author of *Cancer Ward*, *One Day in the Life of Ivan Denisovich*, and *Gulag Archipelago*?

ANSWER: Aleksander **Solzhenitsyn**

20. Simians and passerine birds can no longer synthesize this compound, which can be made from in glucose in a four-step process featuring the l-gulonolactone oxidase enzyme. This vitamin is needed for the synthesis of norepinephrine, carnitine, and the metabolism of tyrosine, and though it normally acts to reduce oxidative stress, it can also function as a pro-oxidant. It is most important as a cofactor for prolyl hydroxylase and lysyl hydroxylase, enzymes which are needed for the proper formation of collagen's triple helix structure. FTP, name this water soluble vitamin found in citrus fruits whose deficiency is known as scurvy.

ANSWER: **Vitamin C** or **l-ascorbic acid**

21. One ruler of this name and a Duke of Saxony was a rival of the Hohenstaufen's and was nicknamed "the Lion." A third ruler of this name fought the Barons' war led by Simon de Montfort, after which he was forced to sign the Provisions of Oxford. A fourth ruler of this name was advised by the Duc de Sully. A few years before that man came to power, his country had suffered through a namesake "war of the three rulers of this name." That man went on to issue the Edict of Nantes. A second ruler of what name was, FTP, king of England and Married to Eleanor of Aquitaine.

ANSWER: **Henry**

Bonuses:

1. FTPE, answer some questions about things in physics that make no sense:

[10] When one measures the spin of only one electron in a pair, the other instantly reverts to the opposite of the first, leading to this effect. Einstein proposed taking electrons to opposite sides of the universe and measuring one, then seeing if the other would switch at faster-than-light speed.

ANSWER: **quantum entanglement**

[10] Quantum mechanics proposes that, before measurement, particles exist in a quantum superposition of all states. Measurement causes this to collapse, and a particle takes on a single value.

ANSWER: **wave function**

[10] Quantum superposition is tested in this thought experiment proposed by the eponymous physicist. It constructs a setup of an alpha particle, a Geiger counter, and the titular animal in a box that dies when the particle decays.

ANSWER: **Schrodinger's Cat**

2. FTPE, answer some questions about a certain post-transcriptional modification of mRNA.

[10] In this process, complexes of small nuclear ribonucleoproteins modify mRNA to make it suitable for protein production through translation.

ANSWER: **splicing**

[10] Splicing is necessary to remove these regions of mRNA, which correspond to parts of a gene that no longer express any functional or useful proteins.

ANSWER: **introns**

[10] In the second step of splicing, the spliceosome prepares an intron for removal by binding it upon itself to form this circular structure.

ANSWER: **lariat**

3. Identify the following Thomas Hardy novels, FTPE:

[10] Hardy's Victorian audience was shocked by his sympathetic tale of the titular fallen woman, who bears Alec's illegitimate son whom she names "Sorrow" in this novel.

ANSWER: *Tess of the D'Urbervilles*

[10] The shepherd Gabriel Oak and the farmer William Boldwood vie for the hands of Bathsheba Everdene in this novel, which takes its title from a line from Gray's "Elegy Written in a Country Churchyard"

ANSWER: *Far From the Madding Crowd*

[10] The titular character marries Arabella Donn but falls in love with Sue Bridhead. General panning by critics, who labeled it "obscene" caused Hardy to retire from novel-writing and focus on poetry.

ANSWER: *Jude the Obscure*

4. The prologue to this opera consists of a dramatic toccata, followed by the character of Music singing five stanzas about the power of music. For 10 points each:

[10] Identify this opera in which title character sings "Possente spirto" to Caronte, or Charon, one of the first operas ever composed.

ANSWER: *L'Orfeo*

[10] This Italian composed *Orfeo* to the libretto by Alessandro Striggio. He also composed *The Coronation of Poppea*.

ANSWER: Claudio Monteverdi

[10] Monteverdi's eighth collection of this type of composition is titled these "of Love and War." They are unaccompanied polyphonic compositions with secular texts, and other composers of them include Carlo Gesualdo and Thomas Weelkes.

ANSWER: madrigals

5. Name these works of St. Augustine of Hippo, for ten points each:

[10] Augustine's most famous work is this long treatise on Christian theology and political thought. It describes a titular heavenly community and was written after the sack of Rome by the Visigoths in 410.

ANSWER: The City of God Against the Pagans

[10] Augustine also wrote this autobiography which describes his eventual conversion to Christianity. It shares the title of a similar work by Jean-Jacques Rousseau.

ANSWER: Confessions

[10] Augustine also wrote a treatise on this philosophical concept. Determinist schools like the Stoics deny its existence, while compatibilists claim that it does not contradict the existence of a causal universe.

ANSWER: Free Choice of the Will

6. Identify some Sinclair Lewis novels, FTPE:

[10] Carol Milford, the protagonist of this Lewis novel, feels constrained by small-town life in Gopher Prairie, Minnesota where she moves to be with her husband, Will Kennicott.

ANSWER: *Main Street*

[10] The title character of this Lewis novel is partner in a real-estate firm, dissatisfied with his experience of the American Dream, and an inhabitant of the fictional town of Zenith, in the fictional state of Winnemac.

ANSWER: *Babbit*

[10] The title character of this Lewis novel is a retired executive of the Revelation Motor Company, who travels Europe with his wife Fran, who desires to become an expatriate socialite.

ANSWER: *Dodsworth*

7. FTPE, name these components of electronics.

[10] This two-terminal component follows Ohm's law in that the voltage across its terminals is proportional to the current passing through it.

ANSWER: resistor

[10] This two-terminal electronic component only allows electric current to flow in one direction. It can come in many varieties including the light-emitting type.

ANSWER: diode

[10] This device consists of a solid semiconductor material with several terminals for connection to an external circuit. Application of voltage or current to a pair of terminals affects the current flowing through

another pair of terminals, thus allowing for signal amplification and switching.

ANSWER: **transistor**

8. Answer some questions about an empire from Indian history FTPE:

[10] Babur founded this empire after his victory at the first battle of Panipat in 1526.

ANSWER: **Mughal** Empire

[10] This emperor was the grandson of Babur. His advisors included Birbal and Bairam Khan. He won the second battle of Panipat and pursued diplomacy with the Rajput caste.

ANSWER: **Akbar** the Great

[10] After his marriages to Rajput princesses, Akbar was noted for his toleration towards this religion, which counts a billion members today. Dharma, Karma, and Ahimsa are major principles.

ANSWER: **Hinduism**

9. Answer some questions about a German closet drama, FTPE.

[10] A scholar contemplates suicide, but decides instead to seek out new experiences with the help of Mephistopheles in this work, which came in two parts, published more than twenty years apart.

ANSWER: **Faust**

[10] This German Romantic wrote works on color theory and plant morphology, alongside *Elective Affinities*, *The Sorrows of Young Werther*, and *Faust*.

ANSWER: Johann Wolfgang Von **Goethe**

[10] This is the name of Faust's lover, whose life is destroyed by her involvement with Faust, but who is ultimately saved at the end of the drama

ANSWER: **Gretchen** or **Margaret** or **Marguerite**

10. Name these quirky manifestations of German phobia during World War I, for ten points each:

[10] This sour condiment was renamed from its original Germanic name to "liberty cabbage," because its producers believed it would not sell as much if the initial name was kept.

ANSWER: **Sauerkraut**

[10] This state made speaking German illegal over the telephone. It was also the site of the Wounded Knee Massacre and is the location of the Black Hills.

ANSWER: **South Dakota**

[10] This German composer's music, among others, was also banned. He is best known for writing the Goldberg Variations and the Art of the Fugue.

ANSWER: **Johann Sebastian Bach**

11. Name these figures from Celtic myth, for ten points each:

[10] This Irish hero was trained by the warrior woman Scathach to use the spear Gae Bulg, which he used to kill his son Connla. He later defended Ulster against the forces of Queen Madb.

ANSWER: **Cuchulainn**

[10] In The Cattle Raid of Cooley, it is revealed that Cuchulainn's father is this "long-armed" Celtic god, who took the leadership of the Tuatha De Danaan from Nuada.

ANSWER: **Lugh**

[10] Cuchulainn had an affair with Fand, the wife of this Irish sea god and ruler of the otherworld.

ANSWER: **Manannan mac Lir**

12. Answer some questions about the prelude to the draft in the NFL.

[10] This annual event invites athletes to perform workouts like the shuttle run and the bench press for coaches and scouts from the NFL.

ANSWER: NFL Scouting **Combine** or **National Invitational Camp**

[10] The most-hyped event from the Combine is this run. Reggie Bush ran it in 4.24 seconds in 2006.

ANSWER: **40 yard** dash

[10] Players are also evaluated on this 50-question, 12 minute aptitude test. Ryan Fitzpatrick got a 48; Vince Young got a 6 on his first try and a 16 on his second. The average score is a 24.

ANSWER: **Wonderlic** Personnel test

13. Identify a Latin American country and its leaders FTPE:

[10] This country with capital at Santiago fought the War of the Pacific against Bolivia and Peru from 1879 to 1884.

ANSWER: **Chile**

[10] This Chilean dictator implemented economic reforms but also tortured tens of thousands of people. He was seen as a bulwark against Latin American socialism during the Cold War.

ANSWER: Augusto **Pinochet**

[10] Pinochet overthrew this man with the help of the US in 1973. He was democratically elected, but his Marxist policies may have contributed to high inflation.

ANSWER: Salvador **Allende**

14. FTPE, answer the following related questions about cellular respiration.

[10] This series of reactions, which occurs in the matrix of mitochondria, results in the formation of two ATP, six NADH, two FADH₂, and four carbon dioxide molecules after two turns.

ANSWER: Szent-Györgyi-**Krebs** or **citric acid** cycle

[10] The cycle regenerates this four-carbon compound, which in the first step accepts an acetyl group from acetyl-CoA to form citrate.

ANSWER: **oxaloacetate**

[10] If carbohydrate sources are not readily available or the organism is in a state of starvation, this process can be used to generate the glucose needed for cellular respiration. Oxaloacetate is one of many intermediaries that can enter this pathway.

ANSWER: **gluconeogenesis**

15. Answer the following questions about poetry by Walt Whitman, FTPE:

[10] Even though “the fearful trip is done” in this poem, the title character of this poem cannot “walk the deck” because he has “fallen cold and dead”.

ANSWER: **“O Captain! My Captain!”**

[10] The titular time of this elegy was also when “the great star droop’d in the western star in the night” and the second section of this poem sees the narrator preparing to put a sprig of the title flower on the coffin of the assassinated Abraham Lincoln.

ANSWER: **“When Lilacs Last in the Dooryard Bloom’d”**

[10] “O Captain! My Captain!” and “When Lilacs Last in the Dooryard Bloom’d” both appeared in this 1855 collection by Whitman.

ANSWER: **Leaves of Grass**

16. Given cities along their banks, name some rivers FTPE. Five points if you need countries too.

[10] Prague, Budapest and Bratislava

[5] Austria, Hungary, Czech Republic, Slovak Republic

ANSWER: **Danube**

[10] Manaus, Iquitos, Belem do Para

[5] Peru, Brazil

ANSWER: **Amazon**

[10] Varanasi, Kolkata, Haridwar

[5] India, Bangladesh

ANSWER: **Ganges**

17. His paintings include "Return of the Prodigal Son" and "Syndics of the Draper's Guild." For 10 points each:

[10] Identify this Dutch painter, whose "The Jewish Bride" depicts a couple whose hands meet over the woman's breast, next to a potted plant.

ANSWER: **Rembrandt** van Rijn

[10] This most famous painting by Rembrandt is a group portrait depicting the company of Frans Banning Cocq and Willem van Ruytenburch.

ANSWER: *The* **Night Watch**

[10] One figure pulls on the musculature of a cadaver's arm while seven men look on, while a textbook sits open in the foreground in this painting by Rembrandt.

ANSWER: *The* **Anatomy Lesson** of Dr. Nicholas Tulp

18. Stuff about the reign of Emperor Napoleon Bonaparte, FTPE:

[10] The largest battle in Europe before World War I, involving 600,000 troops, this 1813 battle resulted in a resounding loss for Napoleon, who had lost a huge portion of his forces already during his doomed invasion of Russia.

ANSWER: Battle of **Leipzig**

[10] Napoleon was exiled for this many days in Elba after suffering losses at Leipzig and later battles and being forced to abdicate his throne.

ANSWER: **100 Days**

[10] After losing at the Battle of Waterloo, Napoleon was exiled for good to this island 2,000 kilometers away from any major continent.

ANSWER: **St. Helena**

19. Answer some questions about a book that bid *au revoir*, FTPE:

[10] This English author and part-time collaborator of W.H. Auden wrote about his experience in the titular city in the 1930's in *Goodbye to Berlin*, which was the basis for the musical, *Cabaret*.

ANSWER: Christopher **Isherwood**

[10] This author's *Farewell, My Lovely* was the second novel to feature Philip Marlowe, who had previously appeared in this author's *The Big Sleep*.

ANSWER: Raymond **Chandler**

[10] This classic British novel by James Hilton chronicles the titular beloved teacher's tenure 40+ year tenure at Brookfield, a boys public school

ANSWER: **Goodbye, Mr. Chips**

20. This country has started the process of joining the EU, though it has been historically considered to be part of Asia. FTPE:

[10] Name this country, currently led by Prime Minister Erdogan with capital at Ankara.

ANSWER: **Turkey**

[10] This man was the only undefeated Ottoman commander from WWI. He became the first Prime Minister of the Republic of Turkey and led a number of modernization efforts.

ANSWER: Mustafa Kemal **Ataturk** (accept **Kemal**)

[10] This group of progressives helped bring about the Second Constitutional Era in 1908 and staged a revolution that restored the Parliament.

ANSWER: **Young Turks**

21. Answer these questions about a certain organelle FTPE:

[10] This organelle is responsible for modifying and packaging a variety of proteins for both intra- and inter-cellular functions. Vesicles from the endoplasmic reticulum fuse with its *cis* face, and final products are released at its *trans* side.

ANSWER: **Golgi apparatus** or **Golgi body**

[10] Vesicles targeted for the Golgi apparatus often have the second type of this surface protein.

ANSWER: **COP** or **coat protein**

[10] As proteins pass from the *cis* to *trans* faces, they are sequentially transferred between these membrane-bound stacks.

ANSWER: **cisternae**