

# DRAGOON 2013

## Round 13

Questions by the University of Illinois at Urbana-Champaign

### Tossups

1. In *The Book of Dede Korkut*, this trait is possessed by the ogre Tepegöz. Herodotus records that a race with this characteristic constantly warred with the gryphons and own the largest source of gold on earth. This trait, which is possessed by the Arimaspians, is also possessed by the husband of Cethlenn who imprisoned his daughter Ethlinn in a crystal tower before he uses it for his own evil purposes at (\*) Magh Tuired. Odin voluntarily gave himself this deformity in order to get a drink from Mimir's well. A son of Thoosa with this trait murdered Acis and ate some of Odysseus's men. For 10 points, name this deformity which Polyphemus and other cyclops possess.

ANSWER: having one eye [accept equivalents.]

2. This phenomenon can be modeled by examining individual parcels which lose their coherence after travelling the mixing length. This type of instability occurs when the adiabatic gradient is smaller than the actual gradient according to the Schwarzschild criterion. The nonlinear  $\mathbf{v} \cdot \nabla \mathbf{v}$  term in the Navier-Stokes equations is sometimes called *this type* of acceleration. One form of this phenomenon driven by buoyancy causes the formation of namesake (\*) hexagonal cells. Whether or not this phenomenon is caused by an external fluid flow determines whether it is "forced" or "free." This phenomenon dominates at high values of the Nusselt number. For 10 points, name this mechanism of heat exchange in which heat transfer is caused by the motion of a fluid, which is contrasted with radiation and conduction.

ANSWER: convection [accept word forms such as convective, accept both "thermal convection" or "mass convection"]

3. Some atrocities in this country were publicized by Eugene Schuyler and Januarius MacGahan. One leader from this country deposed the Latin Emperor Baldwin in Constantinople; that man was Kaloyan of the Asen dynasty. This country with a former capital at Tarnovo was also the location of the 'April Uprising' which kicked off the (\*) Russo-Turkish War of 1876-77. William Gladstone wrote a booklet titled for the "Horrors" here and "the Question of the East." This country's Tsar Boris III protected his Jewish subjects during World War II, and one medieval predecessor of this country was brutally subjugated by the Byzantine emperor Basil II. For 10 points, name this country once led by the Communist leader Todor Zhivkov, from its capital of Sofia.

ANSWER: Bulgaria

4. This author wrote about a man that is taught the art of disappearance by Goon Tse Ying, who warns him that every time he uses that trick, a dragon appears. He created the character of Theophilus Hopkins, who beats his 14 year old son for eating Christmas pudding. His other creations include Christopher Chubb - who runs a bicycle shop in Kuala Lumpur, and Bob McCorkle, a seven foot giant dressed in black; both of them appear in a novel that reimagines the (\*) Ern Malley affair. A different one of his books is narrated by the 139 year old Herbert Badgery. This author of *My Life as a Fake* and *Illywhacker* wrote a novel centering on a bet to transport a glass church to Bellingen, New South Wales. For 10 points, name this Australian author of *Oscar and Lucinda*.

ANSWER: Peter Carey

5. In one scene by this artist set in the countryside, a pig and a horse are seen grazing in the background as his wife wearing a blue shirt lies on the ground. In addition to *The Poet Reclining*, this artist depicted himself in a red jacket holding a wine glass sitting on his lover's shoulders in a double portrait. On the left of one painting, this artist included black-clad troops carrying weapons and a red flag. The right side of that painting shows a (\*) Lithuanian flag behind a burning place of worship. This artist's portraits often included his wife Bella Rosenfeld, who was also born in Vitebsk. He included two upside down houses, a woman milking a goat, and large green face with white lips in his masterpiece. For 10 points, name this Belarusian artist of *The White Crucifixion* and *I and the Village*.

ANSWER: Marc Chagall

6. This element and oxygen bond to molybdenum in the center of xanthine oxidase, and it binds to another metal in the P cluster of nitrogenase. This element can be added to organic compounds using Lawesson's reagent. Alcohols can be prepped for SN2 reactions by converting them into a better leaving group containing this element known as a tosylate. This element, which bonds to (\*) iron in aconitase and the ferredoxins, is typically found as an orthorhombic crystal containing 8 atoms of it. This atom is replaced with selenium in an alternate version of cysteine. Bridges of this element are created in polymers in vulcanization. For 10 points, name this element which bonds to carbon in a thiol which is known for its bright yellow color and is symbolized S.

ANSWER: sulfur [prompt on "S"]

7. David Madsen wrote a scatological novel narrated by a Gnostic one of these figures that travels across 16<sup>th</sup> century Europe. One of these figures decapitates a kitten while it is in the arms of his sleeping employer; another example of this type of character is afraid of the Black Witch and the Black Cook. One of these figures is forced to pose nude for Maestro Bernardo and secretly poisons the enemies of an unnamed prince - that one is named (\*) Piccoline. This type of figure titles a novel by Pär Lagerkvist. Another one of these figures finds the finger of Sister Dorothea, one of his love interests. That one can shatter glass with his voice and is named Oskar Matzerath. For 10 points, name this type of figure exemplified by the protagonist of *The Tin Drum*, which are usually diminutive.

ANSWER: dwarfs [or dwarves, accept anything indicating that these are diminutive characters.]

8. In the appendix to the first Latin edition of this treatise, its author attempts to prove that he did not violate the Nicene Creed. This book is the source of its author's maxim "Leisure is the mother of philosophy." Its sixth chapter distinguishes between vital and voluntary animal motions to show the origin of human passions. Abraham Bosse worked with its author to design this book's frontispiece, which shows a (\*) monarch with a sword and scepter and whose body is composed of many other individuals. This work's fourth and final book describes a "confederacy of deceivers" that populate the "Kingdom of Darkness." For 10 points, name this book which argues that life is a war of all against all, a treatise on social contract theory by Thomas Hobbes.

ANSWER: Leviathan: *The Matter, form and Power of a Commonwealth*

9. In this work, one of the lead characters has dream where he is haunted by spirits of Johnnie Cochran, Genghis Khan, Adolf Hitler, and dancing cups of coffee as the devil plays the guitar. Another character constantly complains about having maggots in his scrotum. Its two lead characters join the natives in the singing of "Hasa Diga Eebowai" after having their bags stolen by the soldiers of (\*) General-Butt-Fucking-Naked but soon stop once they realize that they're singing "Fuck you God." As it opens, Elder Cunningham is accused of "making things up again" after he says "Would you like to change religions? I have a book written by Jesus!" For 10 points, name this Matt Stone and Trey Parker musical about a religion founded by Joseph Smith.

ANSWER: *The* Book of Mormon

10. This work claims “error bred in the bone” craves “what it cannot have,” which is to be “loved alone.” The speaker of this poem asks “Who can reach the deaf / Who can speak for the dumb?” It fears for “Children afraid of the night / Who have never been happy or good.” This poem from the collection *Another Time* was disowned by the poet, an (\*) Englishman who moved to America shortly before writing it. As it closes, the narrator wants to show “an affirming flame.” The speaker of this poem believes “Accurate scholarship” can unearth what “huge imago made / A psychopathic god”, referencing a man from Linz. The author hated this poem’s line “We must love one another or die.” For 10 points, name this W.H. Auden poem that bemoans the onset of the second World War.

ANSWER: “September 1st, 1939”

11. At the climactic battle of this campaign, the invading side occupied the orchards on the western side of their target city to keep a supply of food and water. A sermon in support of this campaign was given at Vezelay abbey. This campaign was first proposed by the bull *Quantum praedecessores*, and was heavily promoted by the preaching of (\*) St. Bernard of Clairvaux. This campaign was spearheaded by Pope Eugenius III, and it was sparked by Zengi’s capture of Edessa. It was led by Louis VII of France and Conrad III of Germany, and ended with the unsuccessful siege of Damascus in 1148. For 10 points, name this crusade which, unlike its predecessor, failed to capture the holy land.

ANSWER: the Second Crusade

12. According to one theorem, the Radon-Hurwitz numbers govern how many of *these* that are non-zero can be mapped to an n-sphere. For a Riemannian metric, critical points are where these vanish when mapped from a smooth function. For a symplectic manifold, one can define the Hamiltonian type of these constructs from an energy function. It is impossible to define a continuous and non-zero one of these constructs tangent to an even dimensional (\*) n-sphere according to the hairy ball theorem. Ones with vanishing curl are said to be irrotational and conservative; such ones can be derived by taking the gradient of a scalar potential function. For 10 points, name these topological constructs that assign a length and direction over all points of a subset of Euclidean space.

ANSWER: vector fields [prompt “fields.”]

13. The slow movement of this composer’s cello concerto features a duet between the soloist and the principal cellist of the orchestra. One of his solo piano works originally contained an extra five Variations which were restored by Brahms, and that work is based on a theme by Baron von Fricken. Much of this composer’s music criticism is structured as a conversation between a character representing his passionate side and one representing his dreamy side. This composer, who created (\*) Florestan and Eusebius, also wrote the *Symphonic Etudes* as well as another piano collection with movements called “The Rocking Horse Knight” and “Traumerei.” For 10 points, name this German composer of *Carnaval* and *Kinderszenen*, many of whose works were premiered by his wife Clara.

ANSWER: Robert Schumann

14. Stephen Greenblatt’s idea of a “Renaissance of culture” was developed after he read the works of this man. In one of his essays, this author described a ring of people forming a “superorganism” shouting “pulisi, pulisi” after the police arrived. That essay by this man is titled for a situation Jeremy Bentham first described, in which it is irrational for men to risk anything. This thinker compared the religion of (\*) Morocco with that of Indonesia in his book *Islam Observed*, and another of his books discusses the “theatre state” in Negara. This thinker provided a definition of ethnography in his book *The Interpretation of Cultures*. For 10 points, name this Princeton anthropologist who discussed the Balinese cockfight in his essay “Deep Play.”

ANSWER: Clifford Geertz

15. A group known as “The Old Guard” or “The Immortal 306” received golden medals made from an Appomattox cannon for their efforts during one of these occurrences. Dynamite bombs were found outside one of these, the televised one, which was held in Philadelphia in 1940. John C. (\*) Fremont came to political prominence after a Pittsburgh event of this kind in 1856, the very first one. The “Culture War” speech was delivered by Pat Buchanan at one event of this kind. For their work at these, Matthew Quay and Mark Hanna were dubbed “kingmakers.” For 10 points, name these meetings that secured presidential nominations for men like John McCain.  
ANSWER: Republican National Conventions [or RNCs; prompt partial answers]

16. Carlos Castaneda described knowledge gleaned from these figures in the books *The Teachings of Don Juan* and *The Wheel of Time*. According to the cosmogony of the Yakuts, the first one of these figures descended from a two-headed eagle and was a child of Ai. More typically, one of these figures would cut notches into the wood of a yurt to ensure a prosperous marriage for a new couple. A hunter who is devoured by polar bears can (\*) become one of these figures, which in Inuit culture is called an *angakkuq*. Typically, they venture through the cosmic order to retrieve an object from the afterlife that is needed for a man in their plane of existence. For 10 points, name these medicine men who are revered as spiritualists in some religions.  
ANSWER: shamans

17. This work’s narrator tells his wife “I’d like to destroy you a few times in bed,” a statement that is referred to later as “good destruction.” Its protagonist recalls seeing Tristan Tzara dining with a potato-faced writer while in Paris. He later recalls his friendship with the writer Julian, who became disillusioned with the lifestyles of rich people. Its minor characters include the servant (\*) Molo, who gives the main character whiskey-soda. This story opens by mentioning a dried and frozen leopard carcass, which foreshadows the death of the protagonist, who blames his wife Helen for holding him back in fulfilling his career as a writer. For 10 points, name this story by Hemingway in which Harry imagines a plane taking him to the title mountain.  
ANSWER: “The Snows of Kilimanjaro”

18. At one point in what is now this country, all land that was not inhabited or cultivated was declared “vacant” and seized by the state. The trade baron Msiri established the kingdom of Garenganze, or Yeke, in what is now this country, and it’s not Algeria but it was home to an elite class called the *evolues*. The wives and families of workers in what is now this country would be held hostage if the workers failed to meet their (\*) rubber quota, and those workers also risked getting their hands chopped off by the *Force Publique*. Abuses in what is now this country were publicized by the Casement Report and were investigated by Adam Hochschild in a book titled after its owner’s ghost. For 10 points, name this country which was once personally owned by Belgium’s King Leopold II and was called Zaire under Mobutu.  
ANSWER: Democratic Republic of the Congo [or Congo-Kinshasa, prompt on “Congo”, do not prompt on “Republic of the Congo”]

19. One disease where certain vessels in this organ are blocked due to inflammation is PSC. A value that can be used to help determine the cause of a disease of this organ compares the ratio between AST and ALT, and is sometimes named for De Ritis. Upon damage to this non pancreas organ, its namesake stellate cells activate and secrete scar tissue. This organ processes a compound made from the catabolism of (\*) heme to make it water soluble, and that compound, bilirubin, causes the yellowness seen as a sign of many diseases of this organ, jaundice. When this organ is sufficiently damaged, its functional tissue is replaced by fibers and scars in cirrhosis. For 10 points, name this organ which is often damaged in alcoholics due to its function in detoxification.  
ANSWER: Liver

20. Although it is now attributed to Michelozzo, the Pazzi Chapel was once thought to have been designed by this man. His biographer, Antonio Manetti, describes how he illustrated the principles of perspective by

**drawing the Palazzo Vecchio and the Florentine Baptistery from two different points. His works include the design of the (\*) Hospital of the Innocents, as well as a project that plagued the architect Arnolfo di Cambio for years. A lantern stands atop of his crowning achievement, which was built without the use of flying buttresses because it is supported by an octagonal base. For 10 points, name this Italian architect who successfully inserted a dome on top of Florence Cathedral.**

ANSWER: Filippo Brunelleschi

**21. One character in this movie introduces herself as a “racist lackey of the imperialist ruling circles.” Minor characters in it include “Miss Mata Hari and her skeletons in the closet” and “Sybil the Soothsayer.” At its opening, its male lead asserts he “ran out of bullshit” before giving a speech about bullshit. It ends with the Great Khan of the (\*) Ecumenical Liberation Army killing the “mad prophet of the airwaves.” That character opens the movie by threatening to kill himself and encourages viewers to say “I’m mad as hell, and I’m not going to take this anymore!” For 10 points, name this film about TV executive Howard Beale, who is manipulated by the Union Broadcasting System.**

ANSWER: Network

## Bonuses

1. Hyperconjugation within this structure due to the presence of a heteroatom leads to the anomeric effect. For 10 points each:

[10] Name this structure adopted by Zimmerman-Traxler transition states. This structure's namesake interconversion or flipping sees the exchange of axial and equatorial groups.

ANSWER: **chair** conformation of cyclohexane

[10] The chair and boat exhibit the conformational form of this relationship to each other. Examples of the structural type of this relationship include n-pentane and neopentane.

ANSWER: **isomerism** [accept word forms like "they're **isomers**"]

[10] Complexes with this structure can exhibit both cis-trans and fac-mer isomerism. This structure consists of 6 ligands symmetrically distributed about a central atom.

ANSWER: **octahedral**

2. This man dramatized the importance of the title musical genre in the Velvet Revolution in his 2006 play *Rock 'n' Roll*. For 10 points each:

[10] Name this playwright who retold the story of *Hamlet* from the perspective of two minor characters in *Rosencrantz and Guildenstern are Dead*.

ANSWER: Tom **Stoppard** [or Tomas **Straussler**]

[10] Two critics named Birdboot and Moon watch a murder mystery set at Muldoon Manor before becoming involved in the said mystery in this ironic play by Stoppard.

ANSWER: *The **Real Inspector Hound***

[10] In this other Stoppard play, Hannah Jarvis and Bernard Nightingale investigate the past of Sidley Park, where Thomasina Coverly was tutored by Septimus Hodge in the 19th century.

ANSWER: **Arcadia**

3. Name these industrial disasters from world history, for 10 points each:

[10] In 1984, a chemical leak at the Union Carbide plant in this Indian city exposed thousands to methyl isocyanate.

ANSWER: **Bhopal**

[10] In this Japanese city, Chisso Corporation was discovered to have dumped mercury into the surrounding bay, which accumulated in the local shellfish population and led to widespread poisoning.

ANSWER: **Minamata**

[10] In April 2013, over 1000 people were killed when a clothing factory collapsed in the city of Savar in this country.

ANSWER: **Bangladesh**

4. In George Caleb Bingham's version, the central figure is seen sitting on horse, as opposed to the more popular version which shows the central figure standing in front of a man holding an American flag. For 10 points each:

[10] Name this scene made famous by Emanuel Leutze, which shows the Continental army rowing through an ice-clogged river.

ANSWER: **Washington Crossing the Delaware**

[10] This work of Grant Wood depicts Leutze's version of *Washington Crossing the Delaware* behind three old ladies, one of whom is holding a tea cup.

ANSWER: **Daughters of Revolution**

[10] Approximately 30 years before Leutze's *Washington Crossing the Delaware*, this American artist completed his *Passage of the Delaware*, which depicts the moments before Washington dismounted to join his comrades in the crossing. His portrait of Andrew Jackson has appeared on the 20 dollar bill since 1928.

ANSWER: Thomas **Sully**

5. After being imprisoned in the Bastille, this philosopher fled to England, where he championed the rational method of Isaac Newton. For 10 points each:

[10] Name this French philosopher who wrote *Philosophical Letters*.

ANSWER: **Voltaire** [or Francois-Marie **Arouet**]

[10] Many of the *Philosophical Letters* are concerned with this question, which asks why is there suffering in the world if God is ultimately good.

ANSWER: problem of **evil**

[10] The 25<sup>th</sup> of Voltaire's *Philosophical Letters* discusses but rejects the theological approaches of the problem of evil of this philosopher, who outlined his namesake wager in his book *Pensees*.

ANSWER: Blaise **Pascal**

6. It describes an object that is "glazed with rainwater, beside the white chickens." For 10 points each:

[10] Name this short poem by William Carlos Williams.

ANSWER: "The **Red Wheelbarrow**"

[10] Williams was part of this poetic movement, which focuses on using sharp language to create a powerful sensation. Other members of this movement include H.D. and Amy Lowell.

ANSWER: **Imagism** [accept word forms.]

[10] This magazine was the main organ for poetry of the Imagists. Started by Harriet Monroe, it published the poetry of Ezra Pound, such as "In the Station of the Metro."

ANSWER: **Poetry**

7. In quantum theories of this process, a plane wave encounters a potential and is transformed into a spherical wave. For 10 points each:

[10] Name this process in which one particle interacts with another particle, forcing it to deviate from a straight trajectory. Light undergoing one form of this process off of molecules in the upper atmosphere is responsible for the blue color of the sky.

ANSWER: **scattering** [accept Rayleigh **scattering**]

[10] This quantity, often symbolized sigma, is an effective area in which collisions and scattering events occur. It's equal to the square of the scattering amplitude integrated over all solid angles.

ANSWER: total microscopic **cross-section** [do not accept or prompt on "differential cross-section"]

[10] This formalism for analyzing quantum scattering problems expresses the scattering amplitude as a sum from L equals 0 to infinity of 2L + 1 times the L-th amplitude times the L-th Legendre polynomial, where L is the orbital angular momentum quantum number.

ANSWER: **partial wave** expansion [or **partial wave** analysis, or "the method of **partial waves**," pretty much take anything using those two words]

8. This sculptor depicted a young man in an S-shaped pose about to catch a lizard climbing up a tree; however, the original of that sculpture is lost and only a Roman copy survives. For 10 points each:

[10] Name this Greek sculptor of *Hermes with the Infant Dionysis* and the *Apollo Sauroktonis*.

ANSWER: **Praxiteles**

[10] Another Greek sculpture that only survives as a Roman Copy is one owned by and named for the Farnese family, which depicts this man. The original is believed to have been made by Lysippos.

ANSWER: **Hercules** [or **Herakles**]

[10] Yet another sculpture surviving only as a Roman copy is *The Dying Gaul*. The original *Dying Gaul* was produced in this city-state; other sculptures from this city-state include a frieze showing the Gigantomachy.

ANSWER: **Pergamon** [or **Pergamum**]

9. Name these noble families of medieval and Renaissance Italy, for 10 points each:

[10] Originally from Valencia, this family produced Rodrigo, who became Pope Alexander VI, as well as Cesare, who was examined by Machiavelli in *The Prince* and according to legend had an incestuous affair with his sister Lucrezia.

ANSWER: **Borgia** or **Borja**

[10] This family ruled Milan until they were ousted by the Sforzas. Their most celebrated member was Gian Galeazzo, who served as the first official Duke of Milan and took over Vicenza, Padua, and Verona.

ANSWER: **Visconti**

[10] This Italian family based in Rome led the pro-papal Guelph faction against the Ghibelline Colonna family. Popes from this family included Celestine III and Nicholas III.

ANSWER: **Orsini**

10. According to this belief system's cosmology, Zeus and Persephone's union results in a child named Zagreus, who was then killed by Titans, and whose heart was implanted into Semele to create Dionysis. For 10 points each:

[10] Name this movement which believed that the immortal soul was constantly imprisoned in a mortal body, whose hymns were attributed to a bard.

ANSWER: **Orphism** [Accept forms like **Orphic**]

[10] The Orphic creation myth states that from Nyx, and thus the rest of the world came this object. In the Pelasgian creation story, the serpent Ophion wraps himself around this object.

ANSWER: **silver egg** [Prompt on cosmic or world **egg**]

[10] From the Silver Egg hatched a golden-winged deity Phanes, who is often identified with this god of love who is the Greek equivalent of Cupid.

ANSWER: **Eros**

11. These compounds are characterized by a 17-carbon four-ring central structure containing three cyclohexane and one cyclopentane ring. For 10 points each:

[10] Name these compounds, which include such hormones as estrogen and testosterone.

ANSWER: **steroids**

[10] This steroid's hydroxyl groups bind to the heads of the phospholipids in the cell membrane, decreasing its fluidity. Coming in HDL and LDL varieties, high levels of this compound can cause atherosclerosis.

ANSWER: **cholesterol**

[10] Cholesterol can be synthesized through this pathway, which begins with a condensation reaction between two molecules of acetyl-CoA and contains intermediates such as squalene and isopentenyl pyrophosphate. This pathway is also notable for producing terpenoids.

ANSWER: **mevalonate** pathway [or the **HMG-CoA reductase** pathway]

12. The Long Assembly's call for war against "bad" Indians wasn't enough to stop this rebellion. For 10 points each:

[10] Name this 1676 rebellion named after a man who sought to avenge Doeg Indian attacks.

ANSWER: Nathaniel **Bacon's Rebellion** [accept synonyms for "Rebellion"]

[10] This Virginia governor had most of the leaders of the rebellion hanged, though Bacon died of body lice.

ANSWER: William **Berkeley**

[10] This tribe's female chief Cockacoeske was killed during Bacon's Rebellion. Powhatan and his daughter Pocahontas belonged to this tribe.

ANSWER: **Pamunkey**



13. To determine whether his best friend should get married, he opens random pages of the *Aeneid*. For 10 points each:

[10] Name this character who befriends the roguish Panurge and goes with him on a voyage to the Oracle of the Holy Bottle in the fifth book in which he appears.

ANSWER: **Pantagruel**

[10] Pantagruel and his father Gargantua were created by this bawdy 16th-century French author, who used their adventures as a satire of the Catholic Church, leading politicians, and other aspects of his time.

ANSWER: Francois **Rabelais** [accept Alcofribas **Nasier**]

[10] In *Gargantua and Pantagruel*, Gargantua establishes this unusual monastic institution where the monks follow the maxim “Do what thou wilt” and live a life of pleasure.

ANSWER: the Abbey of **Theleme** [or **Thelema**]

14. Gregory Peck made a popular recording of this piece with the Los Angeles Philharmonic. For 10 points each:

[10] Identify this musical work for orchestra accompanied by a narrator, who proclaims “Fellow citizens, we cannot escape history” and “As I would not be a slave, so I would not be a master.”

ANSWER: A **Lincoln Portrait**

[10] *Lincoln Portrait* is a work of this American composer, who wrote *Fanfare for the Common Man* and *El Salon Mexico*.

ANSWER: Aaron **Copland**

[10] *Lincoln Portrait* quotes both “Springfield Mountain” and this Stephen Foster minstrel song before the speaker finally enters.

ANSWER: “**Camp Town Races**” [Gwine to Run All Night, or De Camptown Races]

15. During a recent interview with Charlie Rose, he warned “Expect everything” if his country is attacked. For 10 points each:

[10] Name this President of Syria, who is accused of using chemical weapons against his own people.

ANSWER: Bashar **al-Assad**

[10] U.S. Intelligence claims that the Syrian regime used this nerve gas agent in the August 21 attacks. Aum Shinrikyo also used this gas in its 1995 attack on the Tokyo subway system.

ANSWER: **sarin**

[10] Saddam Hussein is also believed to have used sarin in the chemical attack on this Kurdish town in 1988 during the Iran-Iraq war.

ANSWER: **Halabja**

16. Examples of these items include hotdogs and hamburgers with respect to each other. For 10 points each:

[10] Name this type of good, which replace each other in use, unlike a complementary good.

ANSWER: **substitution** good [accept word forms like “**substitutes**”]

[10] Substitution goods have a negative value for this quantity, which is defined as the percentage change in demand for one good given a demand change in the other good. For complementary good, this quantity is positive.

ANSWER: **cross** price **elasticity** of demand [prompt on partial answers.]

[10] The Slutsky equation incorporates the substitution effect and the income effect to express the demand for a good in terms of the partial derivatives of these two economic quantities.

ANSWER: **Marshallian** and **Hicksian** demand [Both answers are required. Also accept **compensated** demand and **uncompensated** demand]

17. Shortly after proclaiming his country a republic, this leader found himself outgunned by Russian forces and was forced into exile. For 10 points each:

[10] Name this politician, the primary leader of the 1848 revolution in his country. A colleague of Ferenc Deak, he became a virtual dictator after Count Batthyany resigned.

ANSWER: Lajos (Louis) **Kossuth** [LA-yosh KO-shoot]

[10] Kossuth is considered the father of democracy in this east-central European country. It saw another revolution in 1956, which was again put down by Russian intervention, leading to the installation of Janos Kadar as this country's leader.

ANSWER: **Hungary** [or **Magyarország**]

[10] Kossuth was a political rival of this "Father of Modern Hungary," who led the push for reform during the 1830s. He favored an 'agriculture-first' economic policy and advocated replacing Latin with Magyar as the official language.

ANSWER: Istvan **Szechenyi**

18. This computer scientist developed a namesake "91 function" that is used in formal verification methods. For 10 points each:

[10] Name this man who developed the paradigm of logic programming. His other achievements include introducing situation calculus to model the real world.

ANSWER: John **McCarthy**

[10] John McCarthy coined this term for the study of computer programs that are able to sense their environment and choose a strategy that maximizes their chances of success. Computer robotics and machine learning are two subfields of this discipline.

ANSWER: **artificial intelligence**

[10] McCarthy organized the Dartmouth Conferences with a slew of other scientists, including this mathematician, who is colloquially known as "the father of information theory."

ANSWER: Claude **Shannon**

19. For 10 points each, name the following authors who wrote about Adonis.

[10] This British poet wrote a love story between Venus and Adonis, who dedicated that poem to the Earl of Southampton. Another of his poetry collections begins with the poem "From fairest creatures we desire increase."

ANSWER: William **Shakespeare**

[10] A poet named Adonis wrote *The Blood of Adonis* in this language. Other poets who wrote in this language include Mahmoud Darwish and Nazir Qibbani.

ANSWER: **Arabic**

[10] A floral, witty, and embellished style of poetry called Marinism is exemplified by the epic poem *Adonis*, a work of literature from this country.

ANSWER: **Italy**

20. Stuff about Indian festivals, for 10 points each:

[10] This holiday, nicknamed the "festival of lights," honors the goddess Lakshmi and/or celebrates Rama's return from exile.

ANSWER: **Diwali** or **Divali**

[10] There is something of a perpetual festival at this holy city on the Ganges in Uttar Pradesh. A network of *ghats*, or steps leading down to the river, runs through this city, which is said to bring salvation if one dies here.

ANSWER: **Varanasi** [or **Waranasi** or **Benares** or **Banaras** or **Kashi**]

[10] This festival, whose name literally means 'nine nights', is usually celebrated in October. It venerates the goddess Durga. In southern India, it is often accompanied by *Golu*, a display of dolls.

ANSWER: **Navaratri** or **Navratri**