

1996 ACF Nationals
Toss-ups by Iowa State University

1. The scaling factor in the classical equipartition of energy amount, the proportionality constant between the entropy and the log of number of accessible states, and the gas constant divided by Avogadro's number all equal a physical constant—1.38 times ten to the minus 23rd. For ten points, what suicidal physicist's name is given to this constant normally denoted "k"?

Answer: Ludwig Boltzmann (Boltzmann's Constant)

2. "The Great Earthquake" occurred when his father cursed God and immediately became prosperous. In Enten Eller, he discusses the razor-edge decisions made by man's free will which determines his personal relationship to God. He used the parable of Abraham and Isaac to argue that religion was inherently paradoxical and irrational in Fear and Trembling. FTP who is this author of Either/Or, the primary Danish existentialist?

Answer: Soren Kierkegaard

3. She was likely no more than 17 when she wrote here elegy on the death of evangelist George Whitefield. In 1773, her "Poems on Various Subjects, Religious and Moral" was published in England. By the time it was published in the U.S., some 10 years later, she had died in poverty. FTP name this poet, born in west Africa.

Answer: Phillis Wheatley

4. In 1833 he was ordained a Presbyterian minister and later that same year became editor of the St. Louis Observer, a weekly which he soon made a forum for the anti-slavery cause. The unpopularity of his views forced him to move in 1836 to Alton, Ohio, where he began publishing the Alton Observer, where mobs destroyed his press on three occasions. For 10 points, identify this man who while defending his press against a fourth mob was killed on November 7, 1837, becoming the first white martyr of the anti-slavery cause in the U.S.

Answer: Elijah Lovejoy

5. It is headquartered at Seronera and extends from the southeastern shore of Lake Victoria, including a 25-mile wide strip along the Kenyan border. FTP identify this last site of vast animal migrations, a Tanzanian national park noted for its herds of wildebeests, gazelles, zebras and lions.

Answer: Serengeti National Park

6. It lasted from about 200 BC until AD 800 when its peak population of about 150,000 disappeared leaving their identity, language, and origins unknown. It is laid out in the form of a grid and features such edifices as the Pyramid of the Sun and the Pyramid of the Moon. FTP name this one-time religious capital of Mesoamerica famed for its Avenue of the Dead that is located some 30 miles northeast of Mexico City.

Answer: Teotihuacan

7. David Hilbert first introduced the term, and the theory of commutative forms of this algebraic construct was given a firm axiomatic foundation by Emmy Noether. The integers modulo n for composite n, square matrices over a field, polynomials over the integers, and the even integers, all form mathematical groups with multiplication that distributes. FTP what are these structures which can be worn on the finger?

Answer: rings

8. Designed by the firm of Skidmore, Owings, and Merrill, its base consists of nine 75-foot squares, but two diagonally opposite squares stop at the 50th floor, the other two corner squares stop at the 66th floor, and three more squares stop at the 90th floor. Constructed under architect Fazlur Khan and completed in 1973, it employs a "bundled tube" structure: groups of narrow steel cylinders are clustered to form a thicker column. FTP name this 110-story, 1,454 foot Chicago landmark.

Answer: Sears Tower

9. Its pastoral idealization and meditation on death is made even more subjective at the end by the introduction of "The Epitaph". Beginning when "The curfew tolls the knell of parting day", it argues that "The boast of heraldry, the pomp of power, / And all that beauty, all that wealth e'er gave, / Awaits alike the inevitable hour. / The paths of glory lead but to the grave." FTP name the lyric work conceived "far from the madding crowd's ignoble strife" near a rural parish and written by Thomas Gray?

Answer: Elegy Written in a Country Churchyard

10. He is known to have never taken any prisoners. The originator of this title is now rich and living in Patagonia; the next was named Cumerbund who passed the title to Ryan who gave it to Wesley who forsook it to marry his true love, Buttercup. FTP give this title of the captain of the "Revenge" in the movie The Princess Bride.

Answer: Dread Pirate Roberts

11. Friedmann and Lemaitre found homogeneous and isotropic solutions that did not require it. Like Hubble's constant, many models admit that it may vary as a function of time. A time dependency could cause "inflation" of the early universe. It may be interpreted as a universal effective mass density and also as a fifth force between all particles. For ten points, what is this scalar in the relativistic field equations, forever to be known as Einstein's "greatest mistake"?

Answer: cosmological constant

12. Brought to the attention of Charles II, this woman was employed in secret service in the Netherlands, but ended up unrewarded for her services and imprisoned for debt. While in jail, she began to write, producing her first play "The Forc'd Marriage" in 1671. Other works she penned include The Rover and Oroonoko. FTP identify this dramatist, the first Englishwoman to earn her living by writing.

Answer: Aphra Behn

13. Referred to as Piyadassi or "benevolent aspect", he abolished the royal hunt, because of his compunction towards the slaughter of animals. A leader of the Mauryan empire, he converted to Buddhism and helped organize it as the state religion. FTP name this third century BC Indian king whose wheel is at the center of Indian flag.

Answer: Asoka or Ashoka

14. Born in Turkey, he studied at Williams and Yale, before co-founding the Actors Studio in 1947 with Lee Strasberg. A stage and film director, he attracted national attention with his direction of the original productions of "Death of a Salesman" and "A Streetcar Named Desire." Among his film credits are "A Tree Grows in Brooklyn," "Pinky", and "East of Eden." FTP name this man who won Academy Awards for "Gentleman's Agreement" and "On the Waterfront."

Answer: Elia Kazan

15. Ogier, the Dane; Malagigi, the Enchanter; Namo, Duke of Bavaria; Astolpho, of England; Florismart; Saloman, king of Brittany; Rinaldo; Ganelon of Mayence; Turpin, the Archbishop; and Orlando are ten of the twelve most illustrious knights of Charlemagne. For ten points, what collective name is given to these men, all of whom had at least a 17 charisma?

Answer: Paladins or Peers

16. Under the authority given by the 211th, 212th, and 213th Amendments the Handicapper General Diana Moon Glampers lowered all to equality. One of the most handicapped was a seven foot tall man, who had to wear a rubbernose, scrap metal, earphones and spectacles. FTP name this adolescent, the title character of a Kurt Vonnegut short story.

Answer: Harrison Bergeron

17. Permute the chromatic scale. Now, tranpose, invert if desired, reverse if desired; eliminate scale passages. Repeat. Berg did this and got darkly romantic music. Von Webern created highly condensed tone color. For ten points, what name is given to this style of composition, theoretically described by Schoenberg?

Answer: Twelve Tone System or Dodecaphonic System or serial Composition or atonal

18. At the first the Germans capture Messines ridge but not the city; at the second assaults backed by the first use of poison gas failed to break the British line. At yet a third British, Canadians and Australians mine the ridge as part of the Passchendaele offensive; and at the fourth in 1918, the Germans are stopped at the river Lys. For ten points, name the Belgian city which gave its name to these four WWI battles.

Answer: Ypres [EE-pruh]

19. It was developed by Starke R. Hathaway and John C. McKinley in 1943, and has ten clinical scales, including Hypochondriasis, Hypomania, Paranoia, Social introversion, and Schizophrenia. It has been restandardized in recent years because cultural differences between the 1940's and today had resulted in current test results having a higher proportion of psychologically disordered. Some of its statements include "I believe I smell as good as most people" and "I was an imaginary playmate." FTP name this personality assessment test named for the university at which Hathaway and McKinley were working.

Answer: MMPI or Minnesota Multiphasic Personality Inventory

20. During the last three years of his life, he served as astrologer to Albrecht Wallenstein. His book Somnium features demons propelling a craft to the moon; in real life he advanced optics and explained hyperopia and myopia. Influenced by Michael Mastlin, as court astronomer to Rudolph II, the bulk of his fame rests on some observations of Mars' orbits. FTP identify the man who used Tycho Brahe's data to form three empirical laws of planetary motion.

Answer: Johann(es) Kepler

21. It served as the backdrop to the early 19th century American painting "Both Members of this Club" and was the setting for several famous title bouts. For 10 points, what is this club located near the studio of George Bellows which appears in the title of one of Bellows' best known works.

Answer: Tom Sharkey's Club

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Bonus Questions by Iowa State University

1. Answer the following questions about "The Wasteland" for ten points apiece.

1. What does April mix with desire in the opening stanza of the poem?
2. What Sanskrit word (in triplicate) ends the poem?
3. In which part do we meet Phlebas, the drowned Phoenician sailor?

Answer: memory ✓

Answer: Shantih ✓

Answer: Death by Water x (Prompt: on the fourth part or equivalent)

2. Identify the following early labor strikes for ten points each.

1. This strike protested the dangerous working conditions of Carnegie's steel mills. The workers lost to the Pinkerton agents and were fired and evicted.

Answer: Homestead Strike (Riots)

2. This 1886 Chicago strike is better known for an anti-police bombing in retaliation for the death of four striking workers at their hands.

Answer: Haymarket Riots *see below*

3. This 1894 strike was led by Eugene Debs and protested a wage cut without a corresponding rent cut. It was broken by invoking the Sherman Anti-Trust Act against the workers for not allowing the delivery of mail.

Answer: Pullman Strike

3. Answer the following questions about the art movement De Stijl for ten points apiece.

1. This painter founded the magazine De Stijl in 1917 from which the movement took its name.

Answer: Theo van Doesburg

2. This man designed the red-blue chair, the epitome of De Stijl furniture design.

Answer: Gerrit Rietveld

3. This man was the most extreme of the De Stijl and created Neoplasticist theory and painting. His later works include "Broadway Boogie Woogie".

Answer: Piet Mondrian

4. Identify the following genetic terms for ten points each.

1. This type of gene is always "turned on," meaning that the characteristics for which it codes are essential to the body at all times in some form or quantity. Evidence of its products can therefore always be found in the cell.

Answer: constitutive gene x

2. These genes are "turned on" only in response to certain stimuli, such as the presence of a certain protein or other structure in the cell that is not usually present. The genes "turn off" and their product disappears when the stimulus is removed.

Answer: inducible genes x

3. In prokaryotes, this structure regulates the production material by inducible genes. It derives its name from the fact that it promotes, then operates, gene activity.

Answer: operon x

5. Answer the following questions about Islam, none of which asks for the 5 pillars of the faith. 10 pts each.

1. Just as the Bible is divided into books, the Koran is subdivided into 114 chapters. What name is given to these divisions.

Answer: suras ✓

2. Islam has no priests as such. Instead, worship is lead by these lay leaders. Name them.

Answer: imams ✓

3. A legal system based on the Koran and the teachings of Mohammed has become the law of many Muslim countries. Name it.

Answer: Shari'a ✓

6. Identify these Indian writers for 10 points each.

1. He finalized the shift from Prakrit to Sanskrit in drama and wrote India's greatest play, Shakuntala.

Answer: Kalidasa

2. He wrote India's greatest novels including Gora and Ghare Baire, renounced his knighthood over the Amritsar affair, and worked against the partition of Bengal. Name this only Indian winner of the Nobel Prize in Literature.

Answer: Rabindranath Tagore

3. This author famed for "Malgudi Days" and "The Guide" has recently taken to writing of the Indian expatriate experience.

Answer: R. K(rishnan) Narayan

7. Identify the following musical works from movement titles for ~~ten points each~~ *10-5*

1. 10 pts: Aragonaise, Seguedille, Les dragons d'Alcala

5 pts: Carmen *Bizet*

Answer: Carmen Suite Number 1

2. 10 pts: Furtuna Imperatrix Mundi, Blanziflor et Helena, In Taberna

5 pts: Carl Orff *§*

Answer: Carmina Burana or Songs of Beuron

3. 10 pts: Of the Afterworldsmen, Song of Science, The Night Song

5 pts: Richard Strauss

Answer: Also sprach Zarathustra or Thus spoke (spake) Zarathustra

8. Identify the following Barbara Tuchman historical works for ten points apiece.

1. This 1962 Pulitzer Prize winner details the causes and first month of World War I.

Answer: The Guns of August

2. This work provides a social snapshot of Europe and America in the twenty-four years previous to World War I.

Answer: The Proud Tower

3. The work describes how and why four historical governments pursued wars that were contrary to their own interests.

Answer: The March of Folly

9. Identify the following relating to magnesium for ten points apiece.

1. It is the primary source of almost all industrially produced magnesium.

Answer: seawater or the ocean etc

2. FTP each, which two metals are most frequently alloyed with magnesium in material for engines, aircraft, and tools?

Answer: aluminum and zinc ✓

10. Identify the following Anglo-Scot battles for ten points each.

1. Edward II was defeated at this 1314 battle.

Answer: Bannockburn

2. In 1692 William III allowed the Campbells to trick the MacDonalds with hospitality and then attack them at home. Most of the MacDonalds perished in the treacherous attack.

Answer: Battle of Glencoe

3. This battle was the last land battle to be fought in Great Britain. Scottish troops led by the Young Pretender attempted to surprise the British army moving toward them. They failed, and were routed by Lord Cumberland's army in 1746.

Answer: Battle of Culloden Moor

11. Identify these men from the silent film era for ten points each.

1. This pioneer of slapstick comedy created (and directed) the Keystone Kops.

Answer: Mack Sennett

2. After achieving stardom at Mack Sennett's studio, he went to write, direct and star in his own films until his on-screen career was ruined in 1921 by a scandal involving the death of a young woman.

Answer: Fatty (Roscoe) Arbuckle

3. This actor, known as the "Great Lover," appeared in the romantic dramas "The Sheik" and "Blood and Sand."

Answer: Rudolf Valentino

12. Identify the following American dramas from an important event for ten points apiece.

1. Bobo steals Mama's insurance money, threatening Beneatha's college education, Walter's business, and the family's house.

Answer: A Raisin in the Sun by Lorraine Hansberry

2. Jerry throws himself on Peter's knife while explaining that this was the story he had been promising to tell all along.

Answer: The Zoo Story by Edward Albee

3. Mr. Zuss and Nickles comment on the sickness and death visited upon a devout and generous man.

Answer: J.B. by Archibald MacLeish

13. Are perpetual motion machines a myth? You be the judge. Identify these for ten points each.

1. Heracles needed his charioteer's help to kill this beast; the charioteer seered its neck to keep heads from growing back.

Answer: Lernean Hydra ✓

2. This boar was slaughtered daily in Valhalla to provide repast for berserkers and valkyries; it regrew overnight.

Answer: Schrimnir ✗

3. This mother of Arjuna and Karna could restore her virginity overnight, for the continued pleasure of her companions.

Answer: Kunti Pandava ✗

14. Name the following cell structures given a description of each.

1. A twisting, turning compartment covering much of the cell cytoplasm, this structure synthesizes cellular lipids and most membrane proteins.

Answer: endoplasmic reticulum (Prompt: ER)

2. This small organelle uses oxygen to oxidize and break down organic molecules. It both produces and degrades hydrogen peroxide in the cell.

Answer: peroxisome

3. Found in the cytoplasm of all eukaryotic cells, they are believed to act as a storage site for newly synthesized materials and as a "packaging" system for such secretions as hormones.

Answer: Golgi apparatus or bodies

15. Identify the following characters from Sophocle's Oedipus trilogy for ten points apiece.

1. After Laius was killed by Oedipus, this man became ruler of Thebes.

Answer: Creon

2. The brother of Ismene and Antigone was the defender of Thebes and was given an honorable burial after dying in battle with his brother.

Answer: Eteocles

3. This son of Creon and fiancé of Antigone committed suicide to join her in the Underworld.

Answer: Haemon

16. Identify the following famous newsmen during World War II for ten points apiece.

1. He began broadcasting from Europe in 1937 where he reported on the occupations of Austria and Czechoslovakia before the war. He is better known, however, for his on-the-spot accounts of the events of the Battle of Britain for CBS news.

Answer: Edward R. Murrow

2. This journalist wrote personal, everyday stories of soldiers' lives for newspapers nationwide. His articles were so popular that his account of the invasion of Italy was later made into a movie.

Answer: Ernie Pyle

3. As a cartoonist, he expertly captured the wry humor of the life of the average soldier. His two most popular characters were Joe and Willy, who personified the typical GI.

Answer: Bill Mauldin

17. A positron is at rest in a region of space with a magnetic field, a gravitational field and an electric field. Each field points east.

1. In what direction is the electric force?

Answer: east

2. In what direction is the gravitational force?

Answer: east

3. In what direction is the magnetic force?

Answer: none (The force has zero magnitude)

18. For ten points each, name these Edgar Allan Poe characters.

1. He is tricked into the Montresor vaults and bricked up to avenge one thousand injuries and an insult.

Answer: Fortunato

2. He throws a great masked ball during a plague only to be literally visited by death.

Answer: Prince Prospero

3. He solves the mystery of the purloined letter, the murders in the Rue Morgue, and the disappearance of Mme. Roget.

Answer: C. Auguste Dupin

19. In the entire history of Middle Earth, only six non-Ainur ever touch the One Ring. For five points each, name them.

Answer: Isildur, Deagol, Smeagol or Gollum, Bilbo Baggins, Frodo Baggins, Samwise Gamgee

20. Identify the following economic terms from definitions in terms of their elasticity.

1. A good with positive income elasticity.

Answer: normal good

2. A good with positive own-price elasticity.

Answer: Giffen good

3. Two goods with positive cross-price elasticity.

Answer: substitute goods

21. For each of the following Aztec gods, identify his or her area of control and power for ten points apiece.

1. Tlaloc

Answer: rain or fertility

2. Huitzilopochtli

Answer: war or battle

3. Quetzalcoatl

Answer: civilization or learning or wind