

1995 Georgia Tech MLK Invitational
Maryland "Less Filling" Toss-ups
by V. Jejjala, K. LaSala, M. Starsinic

T-1. Also successful as an opera by Louis Gruenberg in 1933, the play was published some 13 years earlier. The title character, a former Pullman porter, retrogresses on the evolutionary ladder becoming a participant in a slave auction and finally becoming a victim of his own aboriginal fears. Eventually gunned down by silver bullets, the protagonist is ritualistically hunted to the steady beating of tom-toms. FTP identify this play set in the jungles of the West Indies that concerns the demise of a Eugene O'Neill despot.
The EMPEROR JONES (do not accept
Brutus Jones)

T-2. Twice chairman of the British Interplanetary Society, he has been an outspoken proponent of the colonization of the Moon and Mars. With training in mathematics and physics, his article "Extra-Terrestrial Relays" (1945) pointed out the possibility of a global television satellite. His latest novel is The Hammer of God. One of the original Grandmasters of Science Fiction, his other novels include Childhood's End, Rendezvous with Rama, and 2001: A Space Odyssey. FTP identify this resident of Sri Lanka.
Arthur C. CLARKE

T-3. This famous Arab nationalist was known as the founder of Arab socialism, a program which called for the confiscation of 600,000 acres of wealthy landowners. His programs ended up causing international strife, when he proposed build a dam on the Nile by nationalizing the Suez Canal Company. This move led to an Anglo-French invasion of the Canal Zone, and the Israeli invasion of the Sinai Peninsula. FTP name this Egyptian leader, who finally completed the Aswan High Dam in 1970 with Soviet backing.
Gamal Abdel NASSER

T-4. His school is often referred to as the Garden after the place where he taught in Athens. Only fragments of his work remain, but his biographer Diogenes Laertius gives the texts of three epistles and forty maxims which indicate his advocacy of reliance on the senses to understand the world. In order to reduce man's anxiety he posited a materialistic physics in which the universe consisted of Democritean atoms and void. FTP identify this Greek philosopher who maintained that Pleasure is the greatest good.
EPICURUS

T-5. He is currently studying the shock wave generated by Supernova 1987A. Far better remembered for his contributions to the theory of atomic nuclei and his efforts as head of the theoretical division on the Manhattan Project, his work on nuclear reactions led him to propose that stars produce their energy by converting hydrogen to helium through the proton-proton chain. FTP name the prominent critic of SDI who presented a model of the Big Bang with Ralph Alpher and George Gamow and won the 1967 Nobel Prize in Physics.
Hans BETHE

T-6. Parsons, Engel, Fischer, and Spies. These four men were hung in 1887 for their involvement in this civil disturbance. It began as a dispute between the McCormick Harvester Company and the Knights of Labor, but became violent when 180 policemen tried to break up a meeting of nearly 1,500 protesters. FTP name this famous event which happened on May 4, 1886 in Chicago, which turned public sentiment against the Knights of Labor.
The HAYMARKET SQUARE RIOT (or
equivalents)

T-7. The painting recalls Rubens' Garden of Love. In the background cupids rise and play. A garlanded image of Venus appears on the far right. The mood is wistful as couples prepare to board a boat in a foreground park-like setting and depart the island of love. FTP identify the 1717 painting by Jean-Antoine Watteau that embodies the rococo aesthetic.
PILGRIMAGE TO/FROM CYTHERA or
EMBARKATION TO/FROM CYTHERA

T-8. An unsophisticated and innocent man, he is caught up in a breach of promise suit instigated by Mrs. Bardell's misinterpretation of some of his remarks as a marriage proposal and the unprincipled lawyers Dodson and Fogg. Accompanied by his servant Samuel Weller, he is incarcerated in Fleet prison. When released, he retires to a house outside of London with Sam Weller and Weller's bride. FTP identify this naive and benevolent gentleman, the founder of an association whose posthumous papers catapulted Charles Dickens to fame.

Samuel PICKWICK

T-9. A group of immune system growth and differentiation factors, they are involved in anti-viral activity. The alpha and beta varieties are produced by macrophages and fibroblasts and increase natural killer cell function. The more famous gamma variety is produced by T-cells and is important in immunoglobulin and antibody production. FTP identify this class of proteins responsible for transient and non-specific immunity following infection that may also be important in combatting cancer.

INTERFERON

T-10. During his reign, the silk culture was introduced to France, and the colonization of Canada was begun. His reign almost never happened, because the Saint Bartholomew Day's Massacre was ordered during his wedding festivities. He was spared and assumed the French throne in 1589 after the last of the Valois kings was assassinated. FTP, name this French king who tried to bring about the end of the French Wars of Religion by converting to Catholicism and issuing the Edict of Nantes before his assassination in 1610.

HENRY IV or _HENRY OF NAVARRE_

T-11. The theory was championed in the United States by the critic Andrew Sarris. It first appeared in the influential magazine _Cahiers du Cinema_ in the early 1950's. Championed by Truffaut, Godard, Rohmer, and others who were to become the vanguard of the New Wave, it was an effort to free directors from traditional script-dominated films. FTP name the theory that asserts that although films are collaborative endeavors, they should ultimately bear the artistic stamp of the director, whose personal vision creates a film just as an author would create a book.

AUTEUR Theory (ask for more
on an early _New Wave_ buzz)

T-12. They were suggested at an International Congress of Mathematicians in Paris in 1900. The first is the continuum hypothesis proved formally undecidable by Godel and Cohen. The eighth concerns the still unsolved problem of the zeroes of the Reimann zeta function. The other twenty-one also address seminal issues in all branches of mathematics. FTP identify their collective name and you'll also name the Gottingen professor who proposed these queries.

David HILBERT'S PROBLEMS

T-13. Comedies by Moliere and Shaw. Dramas in verse by Zorrilla Y Moral and Pushkin. Stories by Dumas, Balzac, and Flaubert. A tone poem by Richard Strauss. FTP identify the legend introduced in a play by Tirso de Molina that also inspired a Byron epic satire and a Mozart opera about the life and death of a Spanish profligate.

DON JUAN

T-14. Early in his career, this West point graduate served in the Black Hawk War, and became the Secretary of War of the Republic of Texas. When the Civil War broke out, he commanded the Department of the Pacific and San Francisco, but joined the South after rumors broke out that he was going deliver California to the Confederacy. He then took over control of the Southern forces in the West until 1862. FTP name this Southern general who was though to be one of the South's leading military commanders until his death at the battle of Shiloh in 1862.

Albert Sidney JOHNSTON

T-15. He is chiefly remembered for his ingratitude in refusing to give the rewards he had promised to Apollo for pasturing his flocks on nearby Mt. Ida, to Poseidon for building the walls of his city, and to Heracles for rescuing his daughter Hesione from the sea-monster sent by Poseidon to exact vengeance. FTP identify this king of Troy and father of Priam who was slain by Heracles.

LAOMEDON

T-16. As large as the state of Texas, it is one of the most barren areas on Earth, with virtually no rainfall or vegetation, and with only a few nomadic tribes occasionally passing through it. Still not fully explored, the borders of Yemen, the United Arab Emirates, and Oman, with Saudi Arabia in this area have never been firmly established. FTP, name this desert whose English translation means "the empty quarter".

RUB AL KHALI

T-17. In his early career, his behavior was eccentric, violent, and dissipated. A masochist and epileptic as well as an alcoholic, this poet was taken into the home of the English critic Theodore Watts-Dunton and spent the last thirty years of his life in what amounted to protective custody. Among his lesser known works are the novels _Love's Cross Currents_ and _Lesbia Brandon_; his better known poems include "Hymn to Proserpine", "Hymn to Artemis", and "The Triumph of Time". FTP name this Victorian man of letters chiefly remembered today for his play _Atalanta in Calydon_.

Algernon SWINBURNE

T-18. Born of Plebian stock, he was a lifelong, fanatical foe of the privileged aristocracy. After winning the Roman consulate, he led a successful campaign against the African prince Jugurtha. For the next fifteen years as leader of the republican party he vied for popular acclaim, and when the Roman civil war broke out in 90 BC, he fought his mortal enemy Lucius Cornelius Sulla. FTP identify the Roman general who died in 86 BC.

Caius MARIUS

T-19. He often signed his letters to such friends as Kelvin and Tait dp/dt , a witty reference to a statement of the second law of thermodynamics that yields his initials. He actually challenged the validity of the second law by claiming that it was a statistical description of nature subject to exception. He illustrated this contention by suggesting the existence of a being that would separate molecules according to their kinetic energies thereby constructing what amounts to a perpetual motion machine. FTP name the physicist whose demon was exorcised through the efforts of Szilard and Brillouin who also developed the Lorentz invariant laws of electromagnetism.

James Clerk MAXWELL

T-20. He consulted Freud regarding his wife's extramarital exploits with Gropius. A Bohemian composer in the classical-romantic style, he was strongly influenced by Beethoven, Bruckner, and Wagner. Reflective of his musical credo that "the content must shape the form", his symphonic works do not always follow the conventional four movement scheme and often employ unorthodox instrumentation. FTP identify this composer of ten symphonies, the last unfinished, who used a cycle of poems by Li Po as the inspiration for his _Das Lied von der Erde_.

Gustav MAHLER

T-21. It runs in families and may cause episodic abdominal pain, skin changes, neuritis, and mental abnormalities. Certain drugs can precipitate acute attacks of this metabolic disease caused by disordered hemoglobin synthesis. FTP name the disease that may have contributed to the madness of King George III.

PORPHYRIA

T-22. Born in New Orleans, he wrote profiles and travel sketches for the _New Yorker_ which were later published in _Local Color_ and _The Muses are Heard_. His grotesque "non-fiction novel" _In Cold Blood_ reflects

his interest in psychopathology while his Music for Chameleons develops a new, experimental style that employed elements from multiple genres of writing. FTP name this twentieth century writer who created a slightly sinister and subtly surreal world in his first novel Other Voices, Other Rooms.

Truman CAPOTE

T-23. After a successful career as an attorney, he entered politics and was eleven times premier of France. A socialist leader, he spent the last seven years of his life as French foreign minister. FTP identify the statesman who won the 1926 Nobel Peace Prize for an ineffectual treaty renouncing "war as an instrument of national policy".

Aristide BRIAND

T-24. First claimed officially in 1884 during the great European rush to expand territories in Africa, it remained largely a thinly inhabited backwater until 1975, when Spain ceded control of it. It is recognized as independent by some countries, and as the S.A.D.R. has been a member of the Organization of African Unity since 1982. FTP, name this region where Polisario rebels continue to fight its occupation by Morocco.

WESTERN/SPANISH SAHARA

T-25. He stressed simplicity and evocative gesture rather than movement and brought about a revolution in art through his mastery in creating the illusion of weight by means of light and shade. Borrowing from his contemporary Filippo Brunelleschi, in such frescoes as The Holy Trinity he introduces the technique of linear perspective to construct spaces. FTP identify the Florentine painter, born Tommaso di Giovanni, whose 1427 frescoes at the Brancacci Chapel represented the pinnacle of Early Renaissance painting.

MASACCIO

T-26. On passing his brother's grave while returning to Rome, he wrote a famous ode that ends "Frater, ave atque vale"--"Brother, hail and farewell." Dying in his thirties in the first century BC, many of his 115 other extant poems tell of his love for the unscrupulous Clodia who became the dark muse Lesbia in his poetry. FTP name this Roman lyric poet.

Gaius Valerius CATULLUS

T-27. It can be made artificially by bombarding thorium with protons and occurs naturally as a result of the alpha decay of actinium. Possessing the highest equivalent weight of any element, it is also the most unstable of the first 92 elements. FTP name the heaviest known member of the alkali metals with atomic weight 223 and atomic number 87.

FRANCIUM

T-28 . This suffragette studied law in her father's office. where she found out that women were considered inferior to men. She was so determined to end discrimination against women that she had the word "obey" removed from her wedding vows in 1840. FTP name this woman who finally managed to start the women's movement by organizing the 1848 Woman's Rights Convention with Lucretia Mott.

Elizabeth Cady STANTON

T-29. The best known of these in the northern hemisphere are the Pleiades. Due to their irregular shape they are often termed open clusters and unlike globular ones are the sites of star formation. FTP identify these groups of a few hundred stars that lie within the plane of the Milky Way.

GALACTIC CLUSTERS

T-30. The site of the first Christian church in England, Joseph of Arimathea is said to have planted his staff there. Traditionally associated as the place where Bors, Percival, and Galahad achieve the Holy Grail, Arthur and Guinevere are said to be buried at an abbey there. FTP identify this ancient town in Somerset, England to which the faithful made a Christmas pilgrimage during the Middle Ages.

GLASTONBURY

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All bonus questions are worth 30 points.

B-1. FTP each identify these Chinese dynasties.

a. It was established by Yang Chien in 590 and lasted thirty-eight years. Name the dynasty during which a vast canal system was established and the country was reunited after a period of disunity following the Han dynasty.

SUI

b. Following the Sui dynasty it lasted from 618-906. It saw the proliferation of the empire, the origins of Ch'an Buddhism, and the golden age of literature. Name the dynasty whose decline began with the An Lu-shan Rebellion and the sack of the capital at Sian.

T'ANG

c. Following the Sung dynasty, it was established by Ghenghis Khan's successors who integrated China into the Mongol Empire. Name the period marked by large-scale contacts among the peoples of China and Europe that included Marco Polo's thirteenth century visit.

YUAN

B-2. Identify these nineteenth century physicists FTP each.

a. Though he made important contributions to acoustics by recognizing the ability of the human ear to recognize mixed sounds by resolving them into component pure tones, he is better remembered for his discovery that the potential across a material is proportional to the current through it.

Georg Simon OHM

b. In the early 1820's he developed Oersted's experiments on the interaction between magnets and electric currents and investigated the forces between current-carrying dielectrics.

Andre Marie AMPERE

c. He won great fame by helping astronomers rediscover the asteroid Ceres after it had been lost. Shortly thereafter, this prolific genius turned to the study of terrestrial magnetism.

Johann Karl Friedrich GAUSS

B-3. For the stated number of points, identify these characters from American literature of the nineteenth century.

5: He upholds the law and hangs Billy Budd realizing that justice, rather than mercy, must be administered to maintain order. Name him.

Captain VERE

5: Who is the Yankee plantation owner who kills Uncle Tom?

Simon LEGREE

10: Name the father of Uncas, the last of the Mohicans.

CHINGACHGOOK

10: Identify the fictional detective who uses fingerprint evidence to solve a murder mystery and a case of transposed identities.

David "Pudd'nhead" WILSON

B-4. Name these landscapists on a 10-5 basis.

10: At the age of twenty-seven, he established himself permanently in Rome and explored the countryside of nearby Campagna thoroughly and affectionately in his paintings.

5: A great exponent of the Baroque, this Frenchman's landscapes are idyllic and nostalgic. His works include _A Pastoral Landscape_ (1650).

Claude LORRAINE

10: Celebrated for his idyllic scenes of pastoral love, this early sixteenth century artist and pupil of Giovanni Bellini died at the age of thirty-two.

5: Among the few works that can be definitively attributed to him are the _Castelfranco Altarpiece_ (1504) and _The Tempest_ (1506).

Il GIORGIONE

10: Mostly self-taught, he repeatedly sketched the same scenes, most notably Salisbury cathedral, under varying conditions. His work influenced Eugene Delacroix and the Barbizon School.

5: Among his great works are _Hampstead Heath_ (1821) and _The Haywain_ (1821).

John CONSTABLE

B-5. Identify the author of a given philosophical work FFP each.

a. _The Philosophy of Right_ (1821)

Georg Friedrich Wilhelm HEGEL

- b. An Enquiry Concerning Human Understanding (1748) David HUME
- c. Either-Or (1843) Soren Aabye KIERKEGAARD
- d. The Phases of Human Progress (1905-1906) George SANTAYANA
- e. Three Dialogues between Hylas and Philonous (1713) George BERKELEY
- f. Time and Free Will (1888) Henri BERGSON

B-6. Given a brief description of a leader of a European country during the outbreak of World War I, give his name FFP each.

- a. The English Foreign Minister who attempted to mediate between Austria and Serbia before war broke out. Sir Edward GREY
- b. The German Chief of Staff who pushed for early German mobilization to enact the Schlieffen Plan. Gen. Helmuth von MOLTKE
- c. The French President, whose visit to Russia in July reassured the Russians of French support. Raymond POINCARÉ

B-7. Identify these possibly related terms from biology FFP each.

- a. A response by an organism to the duration and timing of light and dark conditions. PHOTOPERIODISM
- b. Shrinkage of a plant cell away from its wall when in a hypertonic medium. PLASMOLYSIS
- c. Any of several single-ringed nitrogenous bases found in nucleotides. PYRIMIDINE
- d. Alternating waves of contraction and relaxation passing along a tubular structure such as the digestive tract. PERISTALSIS
- e. The active engulfing by a cell of liquid particles. PINOCYTOSIS
- f. The simultaneous occurrence of several discontinuous phenotypes in a population. POLYMORPHISM

B-8. For the stated number of points, answer these questions about The Brothers Karamazov.

5: The brother who killed Fyodor Pavlovich, the father of the Karamazov klan. SMERDYAKOV

10: This parable offered by Ivan to Alyosha expresses the former's religious doubts. In it, a menacing old churchman visits Jesus who has returned to the Earth and been incarcerated and upbraids him for returning, saying that the Church no longer needs him.

The Legend of the GRAND INQUISITOR

15: Widely considered to be the religious spokesman of the author, he is the elder monk who preaches a message of love and forbearance.

ZOSIMA

B-9. 30-20-10 identify the composer.

30: His works, catalogued under the code letter "D", number nearly a thousand. Though twenty-seven years Beethoven's junior, the two died the same year and are buried next to each other in Vienna.

20: As a composer, he wrote over 600 lieder. As well as individual lieder like The Erl King and The Trout, he wrote the song cycles The Maid of the Mill and Winter's Journey.

10: His favorite poets were Schiller and Goethe, but he also set Shakespeare and Scott to music. His Quintet in C major is generally regarded as his best piece of chamber music. He also wrote nine symphonies of which the ninth, also in C major, is referred to as "The Great".

Franz Peter SCHUBERT

B-10. Given the figure from Greek mythology, identify an associated figure FFP each.

- a. Father of Jason AESON
- b. Mother of Perseus DANAE
- c. Daughter of Cassiopeia ANDROMEDA
- d. Mother of Achilles THETIS
- e. Brother of Heracles IPHICLES
- f. Father of Theseus AEGEUS

B-17. 30-20-10 name the actor from his films.

30: The Greatest Show on Earth, How The West Was Won, Mr. Hobbs Takes A Vacation

20: You Can't Take It With You, Winchester '73

10: Harvey, Mr. Smith Goes To Washington

James STEWART

B-18. Name the compound from its chemical formula FFP each.

a. Na₂SO₃

SODIUM SULFITE

b. LiClO₃

LITHIUM CHLORATE

c. BaC₂O₄

BARIUM OXALATE

d. KH₂PO₄

POTASSIUM DIHYDROGEN PHOSPHATE

e. CuCN

COPPER(I) CYANIDE or CUPROUS CYANIDE

f. NH₄C₂H₃O₂

AMMONIUM ACETATE

B-19. Everyone knows that it was Napoleon's last battle, but what else do you know about the Battle of Waterloo? Answer the following questions about the battle FTP each.

a. Identify the leader of the Prussian troops which arrived in time to reinforce Wellington.

Marshal Gebhard Leberecht von BLUCHER

b. Give the name of the inn which served as Napoleon's headquarters, and Blucher felt should be the name of the battle.

LA BELLE ALLIANCE

c. Provide the name of the French general and adviser to Napoleon whose cavalry charge during the battle almost broke the British line.

Marshal Michel NEY

B-20. 30-20-10 Name the American writer.

30: He held a variety of jobs including serving as a manager for Western Union before settling in France for nine years during which he published his most famous works.

20: Travelling from Italy to Greece at the beginning of World War II, he wrote The Colossus of Maroussi in which he proclaimed that the genius of Greece does not lie in its ruins but in the spirit of its people.

10: Settling in the Big Sur region of California, he wrote the Rosy Crucifixion trilogy that nearly equaled the success of his previous novels Tropic of Cancer and Tropic of Capricorn.

Henry MILLER

B-21. Given a famous quote from American history, you give me the speaker FFP each and a five point bonus for all correct.

a. "Don't Give Up the Ship."

James LAWRENCE

b. "We have met the enemy, and they are ours."

Oliver Hazard PERRY

c. "War is hell."

William T. SHERMAN

d. "Nuts."

Anthony C. McAULIFFE

e. "There stands Jackson like a stone wall."

Barnard BEE

B-22. Name the twentieth century composer from works FFP each.

a. The Soldier's Tale, The Rake's Progress

Igor STRAVINSKY

b. Fantasia on a Theme from Thomas Tallis, Fantasia on Greensleeves

Ralph VAUGHN WILLIAMS

c. Mississippi Suite, Grand Canyon Suite

Ferde GROFE

d. Lieutenant Kije Suite, Romeo and Juliet

Sergey PROKOFIEV

e. Pierrot Lunaire, Ode to Napoleon

Arnold SCHOENBERG

f. Mysterious Mountain, Magnificat

Alan HOVHANESS

B-23. Give the scientist who shared a Physiology or Medicine Nobel Prize with these other biologists for the stated number of points.

5: 1962, with James Watson and Francis Crick Maurice H. F. WILKINS

5: 1965, with Andre Lwoff and Francois Jacob Jacques MONOD

10: 1973, with Konrad Lorenz and Nikolaas Tinbergen

Karl von FRISCH

10: 1953, with Fritz A. Lipmann

Hans A. KREBS

B-24. Given the name of a work that won the Pulitzer Prize for History and the year it was written, you give me the author FFP each.

- a. Roosevelt: The Soldier of Freedom (1971) James McGregor BURNS
- b. Present at Creation My Years in the State Department (1970)
Dean ACHESON
- c. The Age of Jackson (1946) Arthur M. SCHLESINGER Jr.
- d. Pinckney's Treaty (1927) Samuel Flagg BENIS
- e. A Stillness at Appomattox (1954) Bruce CATTON
- f. Paul Revere and the World He Lived In (1943)
Esther FORBES

B-25. FFP each, name the authors of these science fiction short stories:

- a. "Do Androids Dream of Electric Sheep?" Phillip K. DICK
- b. "Nightfall" Isaac ASIMOV
- c. "Light of Other Days" Bob SHAW
- d. "A Sound of Thunder" Ray BRADBURY
- e. "I Have No Mouth, and I Must Scream" Harlan ELLISON
- f. "Who Goes There?" John W. CAMPBELL

B-26. Name the man who *discovered* each of these physical phenomena for the stated number of points.

- 10: Photoelectric Effect Gustav HERTZ
- 10: Two answers required FFP each: CP Violation
Tsung-Dao LEE and Chen Ning YANG
- 10: Quantum Hall Effect Klaus von KLITZING

B-27. Identify the Restoration comedy from a list of characters FTP each.

- a. Captain Absolute, Lydia Anguish, Mrs. Malaprop The RIVALS
- b. Marlow, Miss Hardcastle, Mr. Hardcastle SHE STOOPS TO CONQUER
- c. Thomas Aimwell, Archer, Lady Bountiful The BEAUX' STRATAGEM

B-28. FFP each and an extra five for all correct, name the Five Classics from the Confucian canon. Either English or Chinese names are acceptable. BOOK OF ODES (Shih ching), BOOK OF CHANGES (I ching), BOOK OF RITES (Li Chi), BOOK OF DOCUMENTS (Shu ching), SPRING AND AUTUMN ANNALS (Ch'un ch'iu)

B-29. FTP each integrate these indefinite integrals with respect to x. The constant term is not needed in your answer. 15 seconds per part.

- a. indefinite integral of $\secant\ x\ tangent\text{-}squared\ x\ +\ secant\text{-}cubed\ x\ dx$
SECANT X TANGENT X
- b. indefinite integral of natural log of a-cubed times a to the x dx
3 A TO THE X
- c. indefinite integral of $\sin\ x\ \cos\ x\ dx$
ONE-HALF SINE-SQUARED X

B-30. FFP each and a five point bonus for all correct, put these Popes in correct chronological order from earliest to latest according to their reigns: Gregory XVI, John XXIII, Pius XI, Paul VI, and Leo XIII.

- GREGORY XVI (1831-1846), LEO XIII (1878-1903), PIUS XI (1922-1939),
JOHN XXIII (1958-1963), PAUL VI (1963-1978)