

2000 Terrapin Invitational Tournament - Division I  
Round 11  
Questions by Roger Bhan

*Toss-Ups*

1. He went with the Emperor Gordian to Persia in order to learn eastern philosophy, but ended up fleeing for his life in a failed military campaign. He taught the utter transcendence of a God figure in a more extreme form than the famous idealism of his predecessor, and his works were compiled by his student Porphyry into his six famous *Enneads*. FTP, identify this 3rd century CE philosopher and founder of Neo-Platonism.

Ans: Plotinus

2. An important method of maintaining population inversion in this device is called Q-switching, which involves the modification of the resonance characteristics of its cavity. The most common type of the dye variety is the Rhodamine 6G in methanol, and in 1960, Theodore Maiman invented the solid-state type, which utilized the process of pump flashing a ruby in order to produce a uniform red beam of radiation. FTP, identify this device that is created via light amplification through stimulated emission of radiation.

Ans: laser

3. They resided in the land of Elis, and according to one myth, Phyleus was killed because one-tenth of its contents, cattle and horses, were not transferred in payment. In another myth, Phyleus was exiled for siding with the recipient of the cattle and horses, Heracles. Its back wall was removed and the rivers Alpheus and Peneus were diverted to flow through the building. FTP, identify this structure that Heracles had to clean out for his sixth labor.

Ans: Augean stables

4. It was first published in a series of articles in London Magazine in 1821, and it traces the story of the author through his privileged school days, poverty in London, and finally a comfortable country existence. The central vice of this work was prescribed to the author at 28 for his dyspepsia, and the author relates how to use the drug to enhance such pleasures as the opera and how others, such as Shadwell and Coleridge, were also addicts. FTP, identify this controversial work by Thomas De Quincy.

Ans: *Confessions of an English Opium Eater*

5. One may become a dhimmi and pay a prescribed poll tax to authorities to avoid being the target of this consequence of following a different religion. It can be conducted via two means: dar al-Islam, or via peaceful means; and dar al-harb, or via warlike means. It can be conducted only by the imam according to the Shiites, but it is the duty of everyone according to the Sunnis. FTP, identify this term that designates the Islamic holy war against evil.

Ans: jihad

6. A Lineweaver-Burk plot of the reciprocal of the rate constant against the reciprocal of the substrate concentration can result in the calculation of its namesake constant. The constant  $k_b$  is the maximum turnover number, and when multiplied by the enzyme concentration results in the maximum velocity of an enzymolysis reaction. FTP, identify this curve that shows the relationship between concentration of a substrate and the rate of an enzyme-controlled reaction.

Ans: Michaelis-Menten curve or equation

7. It is located on its namesake island in the Hochelaga Archipelago. When residents of this city say north, they are actually referring to west-northwest, and east is really north-northeast. The heart of its nightlife lies on Rue Sainte-Catherine, which lies adjacent to the city's central business district, the Golden Square Mile. FTP, identify this city served by the Mirabel International Airport, the second largest in Canada and home to the Expos.

Ans: Montréal

8. The Heckscher-Ohlin theory, which states that each country exports the commodity that uses its abundant factor intensively, could never be proven until the development of this type of analysis. Its two elements are defined as the goods and services each industry buys from all other industries, and the

products each industry sells to the others. FTP, identify this flow-of-goods analysis created by Wassily Leontief.

Ans: input-output analysis or theory

9. This novel begins with the protagonist resting in the Louvre and purchasing a copy of *The Immaculate Conception* by Bartolome Murillo, while the second chapter opens with him studying *The Marriage of Cana* by Veronese. This novel centers on the Gothic-style murder of a man killed by his wife and son, which the main character promises to reveal if he can't marry the daughter Claire de Cintré. FTP, identify this Henry James novel that centers on Christopher Newman and the French aristocracy.

Ans: *The American*

10. Thirty-five of the eighty thousand were women, and a stop at the city of Zunyi resulted in the conference that confirmed their leader. Starting out from the Jiangxi Soviet, the trek led them through Guangxi and Guizhou (GWEE-jou) provinces, north through Sichuan, eastern Tibet, and Gansu, towards the goal at Ya'an in Shaanxi province. FTP, identify the name given to this trip in which the participants, led by Mao Zedong in 1934-35, were constantly harassed by Chiang Kai-shek's army of the Kuomintang.

Ans: Long March

11. The organism *Agrobacterium tumefaciens* produces an important one known as Ti, or tumor inducing. The R variety is useful for conferring cells with various antibiotic-resistant genes, while the first commercial use of these genetic elements was for the bacterial production of human insulin, which allowed Walter Gilbert to win a Nobel Prize. FTP, identify this genetic element that consists of small, circular DNA molecules separated from bacterial chromosomes.

Answer: plasmids

12. She refuses to let her husband use the word "we" to describe the two of them, and doesn't appreciate the house that he's bought for her. The daughter of a famous general, she claims to have the same "passion for life" as Ejlert Lövborg, whose manuscript she burns. She teases Judge Brack by saying that he wants to be the "cock of the walk," and commits suicide after urging Ejlert to have a "beautiful death." FTP, identify this title character of a play by Henrik Ibsen.

Ans: *Hedda Gabler*

13. One of this doctrine's manifestations include the May Laws, or Falk Laws, which made the Roman Catholic clergy subject to the authority of the state. A reactionary movement against the First Vatican Council's move to strengthen the power of the pope, it was incited by Bismarck and involved the persecution of Catholics all through the German Empire. FTP, identify the German word for this conflict that lasted between 1871 and 1883, meaning "culture struggle."

Ans: kulturkampf (accept culture struggle before "German word")

14. His synthesis method along with Kiliani allows one to lengthen an aldose carbon chain by adding one carbon atom to the aldehyde end of an aldose. He developed a method to convert alcohols into carboxylic acids, known as his esterification, but he might be best known to organic chemistry students for his projections, which allow one to compare stereoisomers. FTP, identify this German chemist who received the 1902 Nobel Prize in Chemistry.

Ans: Hermann Emil Fischer

15. Organized after the depression of the 1870s, the farmers that formed this party believed the measures they advocated would allow them to pay off their massive debts and raise the prices of their crops. They ran their first candidate, Peter Cooper, for the presidency in 1876, but he received no electoral votes. FTP, identify this party that adopted a platform of monetary policy based on bimetallism and a paper currency not backed by gold.

Ans: Greenback Party

16. The theme of the play relates the problem of whether to live without illusions on the basis of one's own strength or to shield oneself from the pain of life by accepting a romanticized view of the world. Similar to O'Neill's *The Iceman Cometh* in thematic material, characters in it include the thief Satin and the wandering pilgrim Luka. FTP, name this best-known work by Maksim Gorky set in a sleazy flophouse.

Ans: *The Lower Depths*

17. Its middle section consists of red brick pilasters with decorated terra cotta spandrels, while the top is rendered as a deep overhanging cornice faced in an ornamented terra cotta skin. Its architect borrowed its suppressed transom from the façade of his Richardson's Marshall Field Store of 1888, and used it to impart a decidedly vertical emphasis to this building's form. FTP, identify this early skyscraper and landmark of downtown St. Louis designed by Louis Sullivan.

Ans: Wainwright Building

18. Its first appearance in print was prefaced with the song lyrics, "Other kids' games are such a bore, they've gotta have rules and keep score." Some of its rules include talking in slow motion when in possession of the ball and having to sing the "Sorry Song" after stealing the flag and being hit by the ball. The babysitter, when she enters the Perimeter of Wisdom, learns that the only real rule for this game is that there are no rules, though the score can still be Q to 12. FTP, identify this game featured in the comic strip Calvin and Hobbes.

Ans: Calvinball

19. After a promotion to brigadier general, he participated in the battles of Brandywine and Germantown and distinguished himself at the Battle of Monmouth in 1778, though his greatest achievement was probably his victory at Stony Point. He negotiated the Treaty of Greenville in 1795 after his most famous battle near Toledo, Ohio. FTP, identify this "Mad" Revolutionary War general who succeeded at the Battle of Fallen Timbers.

Answer: Anthony Wayne

20. The finale of his fourth symphony is so complicated as to require three conductors, and one of his early compositions depicted an 1897 football game between Yale and Princeton. His works include *Holidays*, which included the pieces *The Fourth of July* and *Thanksgiving*, and the three-part work *Three Places in New England*. FTP, identify this insurance salesman and composer of Concord.

Answer: Charles Ives

21. Said to have been first called so by Oliver Goldsmith, it was also alluded to in the *Spectator* issued 26 in 1711. Browning, Tennyson, Thackeray, Dickens, Longfellow, Macaulay, Burns, Southey, Coleridge, Dryden, Samuel Butler, and also George Frederic Handel are all honored, as well as Milton's bust and a statue of Shakespeare. FTP, name this literary landmark, the southern end of the south transept of Westminster Abbey.

Ans: Poet's Corner

### *Bonuses*

1. Identify the following concerning a certain work of drama FTPE.

a. This play concerns a dispute between two communes over the ownership of a valley in the Caucasus. It also contains a play within a play about a servant girl named Grusche, who saves the life of the governor's child during an upheaval.

Ans: *The Caucasian Chalk Circle*

b. Identify the writer of *The Caucasian Chalk Circle*.

Ans: Bertolt Brecht

c. Identify the work upon which Brecht based his *The Caucasian Chalk Circle*. In this work, attributed to Li Hsing-Tao, a judge settles a dispute over a child in a Solomon-like manner, urging each claimant to tug at the child from a ring drawn on the ground.

Ans: *The Circle of Chalk*

2. Identify these 20th century Italian scientists from descriptions FTPE.

a. This physicist is most famous for being the first to engineer a nuclear chain reaction.

Ans: Enrico Fermi

b. This chemist developed a catalyst useful for synthesizing ethanol and he worked with Karl Ziegler in developing the first synthetic rubber and polypropylene polymers.

Ans: Giulio Natta

c. Along with Owen Chamberlain, this Italian physicist discovered the antiproton and took part in the discovery of the elements astatine and technetium, as well as plutonium-239.

Ans: Emilio Segrè

3. Identify the following concerning the Great Northern War FTPE.

a. This Swedish king started the Great Northern War and overtook most of northern Europe. He placed Stanislaw I on the throne of Poland and subjugated the Danes under Frederick IV.

Ans: Charles XII

b. Charles XII's plans for humbling Russia were shattered in three days of fighting at this 1709 battle in the Ukraine, which ended with the Swedish forces being crushed.

Ans: Battle of Poltava

c. This Russian monarch defeated Charles XII at the Battle of Poltava in 1709.

Ans: Peter the Great

4. Identify these art movements from descriptions FTPE.

a. This 20th century Italian art movement contained such members as Umberto Boccioni, Giacomo Balla, and Gino Severini.

Ans: futurism

b. This Japanese art movement of the 1950s and 60s contained such members as Jiro Yoshihara and Kazuo Shiraga. Their goal was to use the Abstract Expressionist canvas as an "arena for action." Thus, artists from this group produced many weird exhibitions, such as rolling around half-naked in mud.

Ans: Gutai Group

c. This late 19th century movement became an international style of decoration and architecture. Known as Jugendstil in Germany, its most famous proponents included Gustave Klimt and Egon Schiele.

Ans: Art Nouveau

5. Identify these morally motivated pieces of legislation throughout U.S. history FTPE.

These statutes, enacted between 1638-45, were so named because of the color of paper they were printed on in the colony of New Haven. These laws regulated personal and public conduct, particularly on the Sabbath.

Ans: Blue Laws

This act, also known as the White Slave Traffic Act, was passed in 1910. It forbade the interstate transport of women and girls for immoral purposes.

Ans: Mann Act

Also known as the National Prohibition Act, this prohibited the manufacture and sale of "intoxicating liquors" in an attempt to enforce the 18<sup>th</sup> amendment.

Ans: Volstead Act

6. Identify these works by Gustave Flaubert FTSNOP.

(5) Flaubert's most famous work, this novel centers on the title character, who is unhappy in her marriage. She commits adultery, accrues massive debts, and finally kills herself.

Ans: *Madame Bovary*

(10) This novel tells the tale of Frédérie Moreau during the French Revolution of 1848. He falls in love with Madame Arnoux, though rejects her when she later comes to him.

Ans: *L'Éducation sentimentale* or *Sentimental Education*

(15) This short story focuses on Madame Aubain, a widow with two children, and her maidservant Félicité.

Ans: *Un Coeur simple* or *A Simple Heart*

7. Identify the following concerning operons FTSNOP.

(5,5) Identify the two French scientists that first postulated the idea of the operon in 1961.

Ans: Francois Jacob and Jacques Monod

(10) The first operon was used to explain the synthesis of this enzyme.

Ans: galactosidase

(10) This was the first model of the operon to be posited by Jacob and Monod, which was derived from the production of galactosidase.

Ans: lac or lactose operon

8. Identify these little Greek boys that were humped by big Greek men FTPE.

a. A favorite companion of Herakles, he was lured by the beauty of a nymph when he went to fetch water from a spring. Herakles took too long searching for him, so the Argo sailed without him.

Ans: Hylas

b. Zeus thought this youth so beautiful that he transformed into a giant eagle and brought this young man back to Olympus to serve as cupbearer.

Ans: Ganymede

c. Loved by both Apollo and Zephyrus, this boy chose the former. While he was throwing the ol' discus around with Apollo, Zephyrus, in a fit of jealous rage, caused the discus to strike him dead. Apollo made a flower in honor of him.

Ans: Hyacinthus

9. Identify the following about the Seven Against Thebes FTPE.

a. All or nothing, identify both the leader of the Seven Against Thebes and his younger brother who usurped the throne of Thebes from him.

Ans: Polynices and Eteocles

b. This man was the only surviving member of the Seven Against Thebes. He was the king of Argos and father-in-law to Polynices.

Ans: Adrastus

c. Ten years after the failure of the Seven Against Thebes, this group of warriors, the sons of the ill-fated Seven, marched against the city and finally overtook it.

Ans: Epigoni

10. Identify these Robert Frost poems (that are not the same as the ones from the first time around) from lines FTPE, or FFPE if you need a more recognizable line.

(10) "And both that morning equally lay / In leaves no step had trodden black."

(5) "Two roads diverged in a yellow wood..."

Ans: The Road Not Taken

(10) "Soon the sun's warmth makes them shed crystal shells / Shattering and avalanching on the snow-crust - / Such heaps of broken glass to sweep away / You'd think the inner dome of heaven had fallen."

(5) "I like to think some boy's been swinging them. / But swinging doesn't bend them down to stay."

Ans: Birches

(10) "He's worn out. He's asleep beside the stove. / When I came up from Rowe's I found him here, / Huddled against the barn-door fast asleep..."

(5) "Mary sat musing on the lamp-flame at the table / Waiting for Warren."

Ans: The Death of the Hired Man

11. Identify the following concerning the last emperor of the Western Roman Empire FSNP.

(5) This man was the last Western Emperor, who ruled briefly until the accession of Odoacer as king of Italy.

Ans: Romulus Augustulus

(10) This was the penultimate Western Emperor, who was deposed to allow Romulus Augustulus to rule instead.

Ans: Julius Nepos

(15) This general, the father of Romulus Augustulus, deposed Julius Nepos to allow his son to rule. He was eventually slain by the followers of Odoacer, though they allowed Romulus Augustulus to live. He shares his name with a famous hero from Greek mythology.

Ans: Orestes



12. Identify the following concerning the electron transport chain FTPE.

a. This quinone derivative, made of 10 isoprene units in most mammals, carries electrons from NADH and FADH<sub>2</sub> to cytochrome reductase.

Ans: ubiquinone or coenzyme Q

b. This iron-containing porphyrin is the cytochrome that transfers electrons from cytochrome reductase to cytochrome oxidase.

Ans: cytochrome c

c. The diatomic form of this element is the final electron acceptor in the electron transport chain.

Ans: oxygen

13. Identify these archangels from descriptions FTPE.

a. His name means "God is my light." In Enoch 20:2, he "is over the world and over Tartarus." He is also a guide for Enoch in his imaginary journeys through heaven and the underworld.

Ans: Uriel

b. Meaning "God has helped," he is the angel of death in Jewish and Islamic tradition. He watches over the dying, separates the soul from the body, and receives the spirits of the dead. He also shares his name with a Smurf-hating cat.

Ans: Azrael

c. This angel is the patron saint of Germany and watches over the sick, grocers, sailors, and soldiers. Thought to be the leader of the archangels, he defeated Lucifer and cast him down into Hell.

Ans: Michael

14. Identify these works by Matthew Arnold FTPE.

a. Arnold wrote this elegy upon the death of his friend Arthur Clough. The title takes its name from the Idyls of Theocritus and Virgil's seventh Bucolic.

Ans: Thyrsis

b. This poem was based on a legend that a student that went off to learn the old gypsy traditions still roams about.

Ans: The Scholar-Gypsy

c. This critical work emphasized the need for "sweetness and light" and Hellenism in contemporary Victorian society. It is known for its definition of a three-tiered class structure of Barbarians, Philistines, and the Populace.

Ans: Culture and Anarchy: An Essay in Political and Social Criticism

15. Identify these "kool" things from descriptions FTPE.

a. One of the original Treacherous Three, this rap pioneer went solo and issued such singles as *Wild, Wild West* and *Rise and Shine*. His albums include *Knowledge is King* and he was the first rap artist to perform at the Grammy Awards.

Ans: Kool Moe Dee

b. This group's song "Celebrate!" reached the top ten in 1980.

Ans: Kool & the Gang

c. This spokesperson for a soft-drink company often bursts through walls before thirsty kids, crying "Oh yeah!"

Ans: Kool-Aid Man

16. Identify these various equations derived from Maxwell's equations FTPE.

a. This law states that the total electric flux normal to a closed surface in an electric field is proportional to the algebraic sum of the electric charges within the surface.

Ans: Gauss' law

b. This law relates the magnitude of the magnetic field strength due to a current element in a conductor. It is the magnetic equivalent of Coulomb's law.

Ans: law of Biot-Savart

c. This law states that an e.m.f. is induced in a conductor when the magnetic field surrounding it changes; that the magnitude of the e.m.f. is proportional to the rate of change of the field; and that the sense of the induced e.m.f. depends on the direction of the rate of change of the field.

Ans: Faraday's laws of electromagnetic induction

17. Identify these geographical regions of South America FTPE.

a. This high plateau region of the Andes Mountains extends from southwestern Bolivia into southern Peru. It comprises a series of intermontane basins between the Cordillera Oriental and the Cordillera Occidental.

Ans: Altiplano

b. This is a vast treeless plain of central Argentina. It rises imperceptibly from the Atlantic coast to the Andes Mountains.

Ans: Pampas

c. This is the northernmost region of Chile, bordered by Peru's Tacna Department on the north, by Bolivia on the east, by Antofagasta Province on the south, and by the Pacific Ocean on the west. This region was ceded to Chile at the end of the War of the Pacific.

Ans: Tarapacá

18. Given a Vice President of the U.S., identify the President under whom he served FFPE.

a. Levi Morton

Ans: Benjamin Harrison

b. George Clinton's second vice presidency

Ans: James Madison

c. John Nance Garner

Ans: Franklin Roosevelt

d. Charles Curtis

Ans: Herbert Hoover

e. William Rufus King

Ans: Franklin Pierce

f. Millard Fillmore

Ans: Zachary Taylor

19. Identify the composers of the following related pieces of music FTSNOP.

(5) The opera *Faust*

Ans: Charles-François Gounod

(10) *Faust* Symphony

Ans: Franz Liszt

(15) *Faust* Cantata

Ans: Alfred Schnittke

20. Identify these dirty Sophists from descriptions F15PE.

a. The title figure of a Platonic dialogue, this first of the Sophists wrote *Truth and On the Gods*. He is perhaps most famous for his saying, "Man is the measure of all things."

Ans: Protagoras

b. This Sophist was dirty enough to get two whole Platonic dialogues named after him, the *Major* and *Minor* versions. This philosopher from Elis is chiefly remembered for his efforts in the direction of universality of knowledge.

Ans: Hippias of Elis