

Tossups by Vishnu Jejjala

T-1. One of nine masked spirits who administered justice to his clan, he made his reputation by besting Amalinze the Cat at wrestling. Deeply ashamed of his father Unoka, he had three wives: Nwoya's mother, Ekwefi, and Ojiugo. During the funeral rites for Ezeudu, he accidentally shoots and kills the dead man's sixteen year old son and is exiled from Umuofia for seven years. When he returns, the village's customs have been supplanted by Christianity, and he hangs himself from a tree in despair. FTP identify this main character of Chinua Achebe's Things Fall Apart.

Answer: Okonkwo

T-2. It was suggested by O.W. Greenberg in 1964 as a way to preserve Fermi statistics. Experimental consequences of the hypothesis are tripling the rate at which pions decay and tripling the production cross section for baryons and mesons in electron/positron annihilation. In its infinite limit, QCD may be well understood. FTP identify this quantum number associated with the strong interaction that ensures that the three quarks in a baryon obey the Pauli exclusion principle.

Answer: color

T-3. Richard Wingfield, the English ambassador to France, arranged the event in honor of Perpetual Peace. In attendance on the English side were Adrian Fortescue, Thomas More, and Cardinal Wolsey. Henry VIII challenged Francis I to a wrestling match and was thrown to the ground leading some to speculate that it was because of this that England allied with Holy Roman Emperor Charles V against France. FTP name this opulent display which took place on June 7, 1520 near Guisnes.

Answer: Field of the Cloth of Gold

T-4. He was begotten when Thyestes ravished his daughter Pelopia, a priestess of Apollo. Acting under his father/grandfather's orders, he killed Atreus and wrested the throne of Mycenae for Thyestes, who swiftly lost it to Agamemnon. Banished from home, he returned during the Trojan War to become Clytemnestra's lover and slew Agamemnon on his return to Greece. FTP identify this man killed by avenging Orestes.

Answer: Aegisthus

T-5. He taught at the University of Vienna and served as principal economic advisor to the Austrian government until the Nazis came. His first major work was The Theory of Money and Credit which argued that the purchasing power of money--its price--is determined by supply and demand. His 1922 work Socialism predicted the breakdown of Communism and his publications also foresaw the Great Depression. FTP identify this influential member of the Austrian school whose protege was F.A. Hayek.

Answer: Ludwig von Mises

T-6. The work is an account of the events in heaven on the 13th of October 54 AD. The title is a play on the word "apotheosis" and translates to "Transfiguration into a Pumpkin." It was probably written by Seneca to ingratiate himself to Nero. FTP identify this satire in which Claudius the Clod is cross-examined by Hercules, repudiated by Augustus, and sentenced to

eternally throw dice from a dice-box with a hole in it.

Answer: The Apolocolocytosis of the Divine Claudius

T-7. He was caricatured by Hogarth as a devilish proponent of liberty. He attacked George III's chief minister Lord Bute and his successor George Grenville in Issue No. 45 of the North Briton. Wounded in a duel, he fled to France and was outlawed for his satire Essay on Woman which was deemed obscene. Returning to England, he was imprisoned for seditious libel and thrice won a seat in the Commons from his jail cell. FTP identify this British politician who ultimately became Lord Mayor of London.

Answer: John Wilkes

T-8. They are small cells with a deeply basophilic nucleus and scanty cytoplasm. They do not recognize free soluble or surface bound antigen instead recognizing antigen processed and presented by other cells. Ones classified as CD8+ are able to cause lysis of infected cells while those classified as CD4+ secrete lymphokines which act in the immune response. They are derived from the bone marrow but undergo maturation in the thymus gland. FTP identify this type of lymphocyte attacked by HIV.

Answer: T-cells

T-9. Edgar Degas used his name derisively to describe a style marred by slick and artificial surfaces. During his stay in Italy as winner of the 1850 Grand Prix de Rome, he sent to his native France a copy he made of Raphael's Galatea. His genre paintings of peasants like Rest in Harvest and The Broken Pitcher suggest the loss of innocence. Evening Mood depicts a floating, naked woman in a pose that recalls Boticelli's Birth of Venus. FTP name this painter whose masterpieces The Nymphaeum and Nymphs and Satyr have been labeled as pornographic.

Answer: William Adolphe Bouguereau

T-10. The epigraph points out that the sinner is at heart the same as the Christian. Yusef, a Syrian diamond smuggler, lends money to the protagonist, a colonial deputy commissioner of police, who uses the money to send his wife Louise away to South Africa. With his wife on holiday, the officer conducts an affair with Helen Rolt. His wife returns, he is blackmailed by Yusef, and he ultimately kills himself by overdosing on sleeping pills. FTP identify this Graham Greene novel about the last months of Scobie.

Answer: The Heart of the Matter

T-11. It was established in August of 1872 along the Santa Fe trail and owed its growth to the bison trade. Skirmishes broke out in the city following the election of Alonzo B. Webster as Mayor when the Long Branch Saloon was raided as a brothel. The town's marshals included Charles Bassett, Jack Bridges, and Wyatt Earp; the dentist was Doc Holliday; and the local sheriff was Bat Masterson. FTP name this Kansas city, once the "Queen of the Cownowns."

Answer: Dodge City

T-12. His right hand is gloved, his left is bare, and he rides a milk white steed on Hallowe'en. He transforms in his lover Jenny's arms first into a lizard and an adder, then into a lion and a bear, and

finally into burning coal before being freed from the Queen of Faerie who snared him when he fell off his horse, who tried to send him as a tiend to hell, and who ultimately laments not turning him into a tree. FTP name this figure from Child Ballad 39.

Answer: Tam Lin (not Thomas the Rhymer)

T-13. In 1993 M. Visser showed that the quantum variety, when formed, is stable. All classical examples require exotic material with negative energy density to hold them open. They are sometimes called Einstein-Rosen bridges. Kip Thorne studied them while Carl Sagan was researching Contact. FTP what name is given to these solutions to the Einstein equations that describe a hypothetical tube connecting two widely separated positions in space-time.

Answer: wormhole

T-14. A recipe for Haschich Fudge was not included in the first American edition of her Cook Book but may be found in the British edition. The Cook Book intersperses haute cuisine recipes with her reminiscences. She also published an account of her life in What is Remembered (1963). The publication of "her" autobiography in 1933 provoked the sardonic Testimony against Gertrude Stein. FTP identify this secretary and companion of Gertrude Stein.

Answer: Alice B. Toklas

T-15. The earliest known source is a copy made about 1730 by Anna Magdalena, but exactly when, why, and for whom they were written remains unknown. Popular tradition holds that they were composed for either Christian Ferdinand Abel or Christian Linigke, two musicians employed by Prince Leopold of Anhalt-Cothen. Each consists of a prelude followed by a sequence of stylized dances: allemande; courante; sarabande; and a pair of minuets (in nos. 1 and 2), bourrees (in nos. 3 and 4), or gavottes (in nos. 5 and 6). FTP identify these compositions of J.S. Bach whose great exponents have included Janos Starker, Mstislav Rostropovich, and Pablo Casals.

Answer: Cello Suites, BWV 1007-1012

T-16. Its source is the Kailas Range of the Himalayas. It originates as the Yarlung Zangbo Jiang in Tibet and flows through Arunachal Pradesh and Assam in India. At the point where it meets the Tista River, it is known by its Bengali name Jamuna. FTP name this 1800 mile long river that empties into the Bay of Bengal, the largest river in Bangladesh.

Answer: Brahmaputra (prompt on Jamuna)

T-17. Byron wrote that this founder of Galveston, Texas "linked one virtue to a thousand crimes." His lieutenant was Dominique Yau, and he commanded an armada of fifty ships and over a thousand privateers from his base on Grand Terre Island at the entrance to the swamp of Barataria. Called the "Gentleman Pirate," when the governor of Louisiana put a \$500 bounty on him, he put a \$1500 bounty on the governor. FTP identify this man, who, in return for a pardon from Andrew Jackson, lent American troops powder and flints and bombarded the British in the Battle of New Orleans.

Answer: Jean Lafitte

T-18. It begins in 1936 and ends in 1900 both times with Charon on the River Styx. Characters

include humorist Jerome K. Jerome, critics Walter Pater and John Ruskin, and Alfred Pollard. The two act play tells of the unrequited passion of the protagonist, who appears at various stages of life, for Moses Jackson. The shadow of Oscar Wilde dominates the scene. FTP identify this 1997 work by Tom Stoppard about the life and scholarship of A.E. Housman.

Answer: The Invention of Love

T-19. In Mesopotamia, it was called the Bird of the Forest, while the Greeks named it Ornithos until Eratosthenes renamed it. Near Sadr, the Great Rift begins and apparently divides the Milky Way into two parallel streams. To the east of its brightest star are the Pelican and North American Nebulae. Sometimes called the Northern Cross, at its foot is the beautiful telescopic binary Albireo. FTP identify this constellation named for the brother of Phaeton whose brightest star Deneb is part of the Summer Triangle.

Answer: Cygnus

T-20. Auden writes of it that "everything turns away Quite leisurely from the disaster; the plowman may Have heard the splash, the forsaken cry, But for him it was not an important failure; the sun shone As it had to on the white legs disappearing into the green Water; and the expensive delicate ship that must have seen Something amazing, a boy falling out of the sky, Had somewhere to get to and sailed calmly on." FTP identify the painting described, now in the Musees des Beaux-Arts, by Pieter Breugel the Elder.

Answer: Landscape with the Fall of Icarus

T-21. Like de Tocqueville's Democracy in America, it is a lively travel classic described by Herzen as the best book written by a foreigner about Russia and by Kennan as a prophetic look at the Soviet Union under Brezhnev and Kosygin. Based on the author's three month tour of imperial Russia, it depicts the elegance of St. Petersburg in 1839 and includes conversations with Czar Nicholas I. FTP identify this work by the Marquis de Custine.

Answer: Empire of the Czar (La Russie en 1839)

T-22. They exhibit cylindrical symmetry with respect to the internuclear axis. They are formed when two s orbitals, one s and one p orbital, two p orbitals, or two d orbitals overlap. FTP what type of covalent bond is this, the first formed between two nuclei?

Answer: sigma bond (prompt on covalent bond)

T-23. He had diplomatic dealings with the Hanseatic League and attached himself to Margaret, Duchess of Burgundy. In Bruges, he studied with Colard Mansion, and his 1474 translation Recuyall of the Historyes of Troye was the first book printed in English. He moved to Westminster and printed nearly eighty books. FTP name this publisher of two editions of The Canterbury Tales and Le Morte d'Arthur.

Answer: William Caxton

Andrea Rm 130

Bonuses by Vishnu Jejjala

1. Identify these memorable characters Dante meets in Inferno FTP per pair.

A. In the Second Circle are these two lovers slain for their adultery by Gianciotto Malatesta.

Answer: Paolo Malatesta and Francesca da Rimini

B. In what Dorothy Sayers describes as the noblest canto of the Comedy, Dante and Virgil encounter what two fraudulent counselors clothed in one shared flame one of whom tells of his final voyage towards the South Pole?

Answer: Ulysses (not Odysseus) and Diomedes

C. In the frozen Ninth Circle, we see what two figures one of whom, a Count, is gnawing on the scalp of the other, an Archbishop, because the Archbishop had locked him up in a tower and forced him to cannibalize his children to survive?

Answer: Count Ugolino della Gherardesca and Archbishop Ruggieri

2. Identify the conductor FTP each.

A. His favorite key was E-flat major, the key of Eroica. He conducted the premieres of Die Meistersinger von Nurnberg and Tristan und Isolde. His wife Cosima Liszt left him for Richard Wagner.

Answer: Hans Guido von Bulow

B. The son of an apothecary, he remarked to a female cellist: "My dear, you have between your legs an instrument that is capable of giving pleasure to thousands, but all you can do is scratch it!" He introduced the Ballet Russes to Britain, presided at Covent Garden, and founded the Royal Philharmonia.

Answer: Thomas Beecham

C. A favorite of Hitler, he succeeded Artur Nikisch at the Leipzig Gewandhaus and the Berlin Philharmonic in 1922. After World War II, he opened Bayreuth with a legendary performance of Beethoven's Ninth Symphony.

Answer: Wilhelm Furtwangler

3. Answer the following questions about the Standard Model of particle physics.

A. 5: What three fundamental forces does the Standard Model explain? (All or nothing)

Answer: strong, weak, electromagnetism

B. 5: Quarks, leptons, and gauge bosons obtain their masses through their interaction with what field that spontaneously breaks the weak interaction and hypercharge down to electromagnetism?

Answer: Higgs field or Higgs doublet

C. 5: How many generations of particles are there in the Standard Model?

Answer: three



D. 5: In certain energy regimes, the Standard Model is a perturbative field theory. What name is given to a diagrammatic representation of particle interactions?

Answer: Feynman diagrams

E. 10: Physicists say the Standard Model is an  $SU(3) \times SU(2) \times U(1)$  gauge theory. Georgi and Glashow speculated that this symmetry group fits into what larger Lie group in an effort to obtain a Grand Unified Theory?

Answer:  $SU(5)$

4. Answer the following questions about the author's favorite Crusade FTP each.

A. One of the best surviving records are the memoirs of Geoffrey de Villehardouin. The Crusade was proposed by Count Tibald of Champagne, set out from Venice, and ended with the sack of Constantinople. Which Crusade is it?

Answer: Fourth

B. The Fourth Crusade began with the conquest of what Christian port city on the Adriatic then in control of the Hungarians?

Answer: Zara

C. What blind Doge of Venice marched at the head of the Crusade, installed Baldwin I of Flanders as Latin Emperor in Constantinople, and was ultimately buried in the Hagia Sophia?

Answer: Enrico Dandolo

5. Answer these questions about the Battle of Camlann for the stated number of points.

A. 10: FFP each name the commanders of the two armies that met at Camlann.

Answer: King Arthur and Sir Mordred

B. 10: Whose ghost appeared to King Arthur on the eve of the battle to tell him to avoid a combat the next morning?

Answer: Sir Gawaine

C. 10: After the battle who cast King Arthur's sword Excalibur into the water?

Answer: Sir Bedivere

6. Identify the Tennyson poem from the quotation FTP each.

A. Out flew the web and floated wide; / The mirror crack'd from side to side.

Answer: The Lady of Shalott

B. "Courage!" he said, and pointed toward the land, / "This mounting wave will roll us shoreward soon."

Answer: The Lotus-Eaters

C. The woods decay, the woods decay and fall, / The vapours weep their burthen to the ground, /  
Man comes and tills the field and lies beneath, / And after many a summer dies the swan.

Answer: Tithonus

D. And this gray spirit yearning in desire / To follow knowledge like a sinking star, / Beyond the  
utmost bound of human thought.

Answer: Ulysses

E. They that had fought so well / Came thro' the jaws of Death, / Back from the mouth of Hell.

Answer: The Charge of the Light Brigade

F. Twilight and evening bell, / And after that the dark! / And may there be no sadness of farewell,  
/ When I embark.

Answer: Crossing the Bar

7. Answer the following about Yellow Fever for the stated number of points.

A. 5: What US Army Medical Corps doctor determined that Havana physician Carlos J. Finlay's  
claim that mosquitos spread the disease was correct?

Answer: Walter Reed

B. 15: Give the genus and species of the mosquito most often responsible for transmitting the  
disease.

Answer: Aedes aegyptie

*half*  
C. 10: What South African born doctor determined that the disease was caused by a virus and  
developed the 17D vaccine against it?

Answer: Max Theiler

8. Given a Civil War battle fought in 1863 name the state where the conflict took place FFP each.

A. Murfreesboro (January 1-2, 1863)

Answer: Tennessee

B. Vicksburg (May 18-July 4, 1863)

Answer: Mississippi

C. Hanover (June 30, 1863)

Answer: Pennsylvania

D. Assault of Battery Wagner (July 18-September 7, 1863)

Answer: South Carolina

E. Chickamauga (September 18-20, 1863)

Answer: Georgia

F. Rappahannock Station (November 7, 1863)

Answer: Virginia

9. Name the desert FTP each.

A. The largest sand desert in the world, this desert in southern Saudi Arabia is a massive, trackless expanse of shifting dunes.

Answer: Rub Al-Khali or The Empty Quarter

B. Except for the Bandiagara Escarpment, a great cliff that slices through it for over ninety miles, it appears flat and barren. The Dogon, Taureg, and Songhai live in this desert.

Answer: Sahel

C. This large, sparsely populated plateau covers parts of the Northern Cape, Western Cape, and Eastern Cape provinces of South Africa. It lies between the Great Escarpment to the north and the Swartberg to the south.

Answer: Great Karoo

10. Identify the woman transcendentalist from description for the stated number of points.

A. 5: In 1844, she published her first book Summer on the Lakes. She married an Italian revolutionary and served as editor of The Dial which she co-founded with Emerson and Ripley.

Answer: Margaret Fuller

B. 5: A biographer of Margaret Fuller, she's chiefly remembered for the poem "The Battle Hymn of the Republic."

Answer: Julia Ward Howe

C. 10: She published poems and children's fiction under the penname Flora Fairfield. Her little regarded adult novels included Work and A Modern Mephistopheles.

Answer: Louisa May Alcott

D. 10: A British transcendentalist, she translated Comte's philosophical writings, wrote the twenty-five volume Illustrations of Political Economy, and published Society in America in 1837 after a tour of the States.

Answer: Harriet Martineau

11. Identify the following people who provided music for the screen from works on a 10-5 basis.

A. 10: themes to Perry Mason, Twilight Zone, and Convoy

5: Psycho, North by Northwest, Citizen Kane

Answer: Bernard Herrmann

B. 10: The Big Sky, Strangers on a Train, The Bridge of San Luis Rey

5: Guns of Navarone, High Noon, Dial M for Murder



Answer: Dmitri Tiomkin

C. 10: Make Mine Music, The Gospel According to St. Matthew, Romeo i Julietta  
5: Lt. Kije, Aleksandr Nevsky, Ivan the Terrible, Part One

Answer: Sergei Prokofiev

12. Answer the following about star clusters FTP each.

A. A color-magnitude diagram of this type of cluster shows a well defined main sequence and the absence of giants. Stellar spectra exhibit a high metal abundance. Examples include the Pleiades. What name is given to these clusters in which star formation does occur?

Answer: galactic or open clusters

B. These clusters are mostly halo objects. Their stellar spectra reveal a low metal abundance indicating the presence of very old stars. A turn-off point in the color-magnitude diagram allows astronomers to deduce the age of the cluster and conclude that star formation is not occurring. What types of objects are these?

Answer: globular clusters

C. The 44.3 parsec distance to which open cluster obtained through the moving-cluster method now provides the fundamental baseline from which all distances greater than about 100 parsecs are measured?

Answer: Hyades

13. Identify the Shakespearean character from Twelfth Night from lines FTP each.

A. And with a green and yellow melancholy / She sat like Patience on a monument, / Smiling at grief.

Answer: Viola (accept Cesario)

B. I'll be revenged on the whole pack of you.

Answer: Malvolio

C. When that I was and a little tiny boy, / With hey, ho, the wind and the rain, / A foolish thing was but a toy, / For the rain it raineth every day.

Answer: Feste (prompt on Clown or Fool)

14. Name the Donatello sculpture from a description FTP each.

A. A marble work commissioned to be placed high on a buttress of Florence Cathedral, the figure's right hand originally carried a leather or bronze strap. The statue was inscribed: "To those who bravely fight for the fatherland, the gods will lend aid even against the most terrible foes."

Answer: David

B. The relief is interpreted as symbolically reenacting the Florentine triumph over Ladislaus. A princess clasps her hands in the foreground and a horse rears from the shock of a knight's lance plunging into the breast of his adversary.

Answer: \_St. George and the Dragon\_

C. Carved in poplar wood, it is often dated after Donatello's return to Florence from Padua in the early 1450's, but it might have been created up to two decades before. It depicts an emaciated woman clothed only in her own hair. The almost toothless, skeletal figure stands in exquisite contrapasto.

Answer: \_The Penitent Magdalene\_

15. Name the following Sumerian deities for the stated number of points.

A. 5: The son of An and Ki, this god of the air was the head of the pantheon from at least 2500 BC. The inventor of the plow, he is banished to the nether world for his rape of his intended bride.

Answer: \_Enlil\_

B. 5: The granddaughter of Enlil, this goddess of love and war sends the Bull of Heaven to terrorize Gilgamesh.

Answer: \_Inanna\_ or \_Ishtar\_

C. 10: The lord of the watery abyss, he is the god of fertility and the keeper of the me or divine laws.

Answer: \_Enki\_

D. 10: The god of the Sun and of Justice, he goes to the Underworld every night to decree the fate of the dead. He opened the gates of the Underworld to let Enkidu escape death, at least for a time.

Answer: \_Utu\_

16. Identify the Good Emperor from clues FTP each.

A. Claimed as ancestor by all subsequent emperors down to Severus Alexander, he was instrumental in revealing Piso's conspiracy to Nero. He used the victory in Pannonia over the Germans to announce his successor.

Answer: \_Nerva\_

B. Born in Lanuvium he was sent as proconsul into Asia by Hadrian. The persecution of Christians was stayed by his mild measures. He had a wall built between the Forth and Clyde rivers.

Answer: \_Antoninus Pius\_

C. His reign suffered from constant wars in Asia, Britain, and along the Rhine. He discussed his stoic philosophy in his \_Meditations\_.

Answer: Marcus \_Aurelius\_

17. Identify the Verdi opera from arias FTP or characters FFP.

A. 10: "Credo in un Dio crudel," "Ora e per sempre addio"

5: Emilia, Cassio, Desdemona

Answer: \_Otello\_

B. 10: "Questa o quella," "Caro nome"

5: Sparafucile, Maddalena, Duke of Mantua

Answer: \_Rigoletto\_

C. 10: "Stride la vampa," "Di quella pira"

5: Leonora, Azucena, Count of Luna

Answer: \_Il trovatore\_ or \_The Troubador\_

18. Identify these obliquely related people FTP each.

A. In April 1917 he traveled from Zurich to Petrograd by train. Once in Russia, his health declined after an assassination attempt the following year, and he died in 1924.

Answer: Nikolay \_Lenin\_ or Vladimir Ilyich \_Ulyanov\_

B. The pen-name of Samuel Rosenfeld, this Romanian-born French poet wrote the dadaist manifesto \_La Premier Aventure celeste de M. Antipyrine\_ in 1916.

Answer: Tristan \_Tzara\_

C. He cast Henry Carr as Algernon Moncrieff in \_The Importance of Being Earnest\_. He gained retribution for a somewhat acrimonious lawsuit against Carr by naming a drunken, blasphemous, and obscene private after him in his 1922 masterpiece.

Answer: James \_Joyce\_

19. Identify the Russian novel from characters FFP each.

A. Sonya Marmeladovna, Porfiry Petrovich

Answer: \_Crime and Punishment\_ (\_Prestupleniye i nakazaniye\_)

B. Innokenty Vologin, Lev Rubin

Answer: \_The First Circle\_ (\_V krughe pervom\_)

C. Arkady Kirsanov, Eugene Bazarov

Answer: \_Fathers and Sons\_ (\_Ottsy i deti\_)

D. Ivan Bunchuk, Gregor Melekhov

Answer: \_The Quiet Don\_ or \_Quiet Flows the Don\_ (\_Tikhiy Don\_)

E. Andrei Bolkonsky, Natasha Rostov  
Answer: \_War and Peace\_ (\_Voina i mir\_)

F. Pavel Antipov, Larisa Guishar  
Answer: \_Doctor Zhivago\_ (\_Doktor Zhivago\_)

20. Identify the Supreme Court case from description FTP each.

A. In 1971, the court ruled that Rhode Island's payment of a salary supplement to instructors at non-public schools who taught secular courses violated the religion clause of the First Amendment.

Answer: \_Lemon v. Kurtzman\_

B. The court held that any evidence obtained by searches in violation of the Constitution is inadmissible in a criminal trial.

Answer: \_Mapp v. Ohio\_

C. The court ruled 5-4 that a Georgia statute criminalizing consensual sodomy was constitutional in this 1986 case.

Answer: \_Bowers v. Hardwick\_

21. Name the twentieth century mathematicians FTP each.

A. A student of Vannevar Bush, he published "A Symbolic Analysis of Relay and Switching Circuits" on the application of symbolic logic to circuit design. With William Weaver, he wrote \_The Mathematical Theory of Communication\_.

Answer: Claude Elwood \_Shannon\_

B. In his work on number theory, Fourier series, and the Riemann zeta function, he collaborated with John Littlewood. He brought Srinivasa Ramanujan to Cambridge and wrote \_A Mathematician's Apology\_.

Answer: Godfrey Harold \_Hardy\_

C. For a time Savilian Professor at Oxford, he won the 1966 Fields Medal for his work on algebraic geometry and topology. Interested in bridging the gap between physicists and mathematicians, he proved the Index Theorem with I.M. Singer.

Answer: Michael Francis \_Atiyah\_

22. Identify the following figures who contributed to our understanding of insulin FTP each.

A. 5: Frederick Banting was working in whose laboratory when he discovered insulin?

Answer: John James Richard \_Macleod\_

B. 5: Banting split his share of the 1923 Nobel Prize in Physiology or Medicine with what co-worker?

Answer: Charles H. \_Best\_

C. 10: Who worked out the sequence of 51 amino acids in the insulin molecule?

Answer: Frederick \_Sanger\_

D. 10: Who then determined the structure of insulin using X-ray techniques?

Answer: Dorothy Crowfoot \_Hodgkin\_

23. Identify the British Prime Minister from terms of office FTP each.

A. 1868-1874, 1880-1885, 1886, 1892-1894

Answer: William \_Gladstone\_

B. 1923-1924, 1924-1929, 1935-1937

Answer: Stanley \_Baldwin\_

C. 1964-1970, 1974-1976

Answer: Harold \_Wilson\_