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13

PHILADELPHIA EXPERIMENT V

## Gundroppers: Tossups

21. [NOTE TO MODERATOR: DO *NOT* ACCENT PRONOUNS.] *GROUCHO MARX PLAYED HIM IN OTTO PREMINGER'S 1968 MOVIE SKIDOO; SIX YEARS LATER, HE APPEARED IN MONTY PYTHON AND THE HOLY GRAIL.* [★] HE FIGURES PROMINENTLY IN VARIOUS BOOKS BY, AMONG OTHERS, JUDY BLUME AND OOLON COLLUPHID. JACK MILES WROTE HIS BIOGRAPHY, SOME 2,000 YEARS AFTER SEVERAL CREDIBLE ACCOUNTS OF HIS SON'S DEATH. FTP, NAME THIS ENTITY, WHOM YOU MIGHT THANK IF YOU GOT THIS QUESTION.  
ANSWER: **GOD** [ACCEPT REASONABLE EQUIVALENTS]

2. *JULIANNE MOORE'S SEDUCTIVE, BUT SADLY ABORTED, STRIP-TEASE FOR HUGH GRANT IN NINE MONTHS IS CHOREOGRAPHED TO THIS SONG.* [★] LIKEWISE, AFTER DRINKING AUSTIN POWERS'S *MOJO*, DR. EVIL AND FRAU FARBISSINA CONCEIVE SCOTT EVIL TO THIS SAME SONG—WHOSE TITLE FRAU SAYS IN GERMAN. FTP, NAME THIS FORTHRIGHT TITLE SONG OF A 1973 ALBUM BY MARVIN GAYE.  
ANSWER: **"LET'S GET IT ON"**

3. *IN ANIMAL CELLS, THE PERICENTRIOLAR REGION, AS WELL AS THE BASAL BODY OF A CILIUM, ORGANIZE THIS TYPE OF CELLULAR STRUCTURE* [★] PROTEINS ASSOCIATED WITH ITS CREATION INCLUDE DYNEIN, KINESIN, AND THE MAP FAMILY. THEY HAVE A TRI-HELICAL STRUCTURE OF 13 PROTOFILAMENTS OF TUBULIN HETERODIMERS. FTP, NAME THE TINY STRUCTURES OF THE CYTOSKELETON THAT PROVIDE SHAPE AND STRUCTURE TO CELLS.  
ANSWER: **MICROTUBULES** [PROMPT ON "CYTOSKELETON"]

4. *THEY ARE NOW ORGANIZED AT FORTS POLK, WAINWRIGHT, AND BARRANCAS AS WELL AS KADENA AIR FORCE BASE* [★] IN ADDITION TO FORT HOOD WHERE THE FIRST OPEN CIRCLE APPROVED BY THE US MILITARY IS LED BY HIGH PRIESTESS MARCY PALMER. FTP, IDENTIFY THIS RELIGIOUS GROUP WHOSE OPEN PRESENCE IN THE MILITARY HAS BEEN CHALLENGED BY FUNDAMENTALISTS, AND WHO DO NOT RIDE BROOMS OR EAT CHILDREN AS MYTH WOULD TELL US.  
ANSWER: **WICCANS**

5. *HIS WORKS INCLUDE THE TRAVEL BOOK THE JAGUAR SMILES, AN ACCOUNT OF A TRIP TO NICARAGUA, AND THE STORY COLLECTION EAST, WEST.* [★] HIS LATEST NOVEL, A RETELLING OF THE MYTH OF ORPHEUS AND EURYDICE IN THE ROCK MUSIC INDUSTRY, IS *THE GROUND BENEATH HER FEET*. FTP, NAME THIS AUTHOR, BETTER KNOWN FOR SUCH WORKS AS *HAROUN AND THE SEA OF STORIES*, *THE MOOR'S LAST SIGH*, *MIDNIGHT'S CHILDREN*, AND *THE SATANIC VERSES*.

ANSWER: SALMAN **RUSHDIE**

6. *THE SEAT OF SCANDINAVIA'S FASTEST-GROWING REGION, THIS CITY OF 200,000 CONTAINS THE MARSELISBORG PALACE AND THE WORLD'S FIRST WOMEN'S MUSEUM. THIS VIKING SETTLEMENT BECAME AN EPISCOPAL SEE IN 948, [★] AND THE CITY ON THIS SITE WAS REVIVED IN THE 1800S ALONGSIDE ITS NAMESAKE RIVER AND BAY, THE SOUTHWEST ARM OF THE KATTEGAT STRAIT. FTP, NAME THE LARGEST CITY ON THE JUTLAND PENINSULA, DENMARK'S SECOND-LARGEST CITY.*

ANSWER: **AARHUS** [OR-HOOSE]

7. *IT CROSSED 18 MOUNTAIN RANGES AND 24 RIVERS [★] OVER THE COURSE OF A YEAR. IT BEGAN IN OCTOBER 1934, WHEN CHINESE NATIONALISTS SURROUNDED THE COMMUNIST BASE IN SOUTHEAST CHINA. THE COMMUNISTS ESCAPED, AND TRAVELED 6,000 MILES TO A NEW BASE IN SHAANXI; THEY LOST OVER HALF THEIR MEN TO THE LAND AND THE NATIONALISTS. FTP, NAME THIS EVENT DURING WHICH MAO ZEDONG WAS ELECTED LEADER OF THE CHINESE COMMUNIST PARTY.*

ANSWER: THE **LONG MARCH**

8. *IMPRISONED BY PLECTRUDE OF HERSTAL AFTER HIS FATHER'S DEATH, HE ESCAPED, AND HIS ARMY SUBDUED THE NEUSTRIANS TEN YEARS LATER. AFTER THE DEATH OF ODO, [★] HE SUBDUED THE CHIEFTAINS OF BURGUNDY. UPON HIS DEATH, HE DIVIDED THE MEROVINGIAN KINGDOM AMONG HIS SONS CARLOMAN AND PEPIN. FTP, NAME THIS "VICTORIOUS" GENERAL AT POITIERS, THE GRANDFATHER OF CHARLEMAGNE, NICKNAMED "THE HAMMER."*

ANSWER: CHARLES **MARTEL** OR CAROLLUS **MARTELLUS**

9. *IT ONLY COVERED 10% OF FEDERAL WORKERS WHEN IT WAS FIRST PASSED IN 1883. BROADENED BY NEARLY EVERY PRESIDENT SINCE, 90% OF FEDERAL JOBS TODAY ARE PROTECTED. [★] THE IMPETUS FOR ITS PASSAGE WAS THE ASSASSINATION OF JAMES GARFIELD BY A OFFICE-SEEKER DISGRUNTLED BY THE SPOILS SYSTEM. FTP, WHAT IS THIS LAW, NAMED FOR THE OHIO SENATOR WHO SPONSORED IT, THAT ESTABLISHED CIVIL SERVICE EXAMS, MERIT HIRING, AND THE CIVIL SERVICE COMMISSION?*

ANSWER: THE **PENDLETON** CIVIL SERVICE ACT

10. *AN ABBREVIATION FOR IT HAS APPEARED ON BRITISH COINS SINCE THE DAYS OF GEORGE I. [★] FIRST CONFERRED FOR *ASSERTIO SEPTEM SACRAMENTORUM ADVERSUS MARTINUM LUTHERUM*, IT WAS RESTORED BY PARLIAMENT IN 1544 AFTER THE TITLE WAS REMOVED BY POPE PAUL III. FTP, NAME THIS TITLE, IN LATIN *FIDEI DEFENSOR*, GRANTED BY POPE LEO X TO KING HENRY VIII FOR ATTACKING THE NASCENT PROTESTANT MOVEMENT.*

ANSWER: **DEFENDER OF THE FAITH** [ACCEPT **FIDEI DEFENSOR** ON EARLY BUZZ; PROMPT ON "F.D."]

11. HIS DARK LATER STYLE BEGAN TO EMERGE WITH A SET OF ENGRAVINGS ABOUT DANTE'S INFERNO FOR THE LANDINO FAMILY EDITION OF THAT BOOK, BUT BECAME MORE FULLY DEVELOPED AS HE BECAME ONE OF THE PIAGONI, [★] OR FOLLOWERS OF SAVONAROLA. SUCH PAINTINGS AS MYSTICAL NATIVITY AND CALUMNY OF APELLES ARE A STARK CONTRAST TO HIS FLUID, CLASSICAL EARLY WORKS. FTP, NAME THE ARTIST OF CAMILLA AND THE CENTAUR AND PRIMAVERA.

ANSWER: SANDRO **BOTTICELLI** OR ALESSANDRO DI MARIANO **FILIFEPI**

12. THIS THEORY CAN PREDICT THE MAGNETIC MOMENT OF A MUON TO SIX SIGNIFICANT DIGITS. CONSIDERED A PERTURBATION THEORY, IT WAS BEGUN BY DIRAC IN 1926 WHEN HE COMBINED SPECIAL RELATIVITY WITH QUANTUM THEORY. [★] ARGUING THAT CHARGED PARTICLES INTERACT BY EMITTING AND ABSORBING VIRTUAL PHOTONS, FTP, NAME THIS THEORY, FOR WHICH RICHARD FEYNMAN WON A NOBEL PRIZE, WHICH SOUNDS LIKE IT IS ITS OWN PROOF.

ANSWER: **QUANTUM ELECTRODYNAMICS**

13. SATIRIZED IN HENRY FIELDING'S JOSEPH ANDREWS, THIS MAIN CHARACTER OF POPE'S THE DUNCIAD WAS KNOWN FOR HIS EXTREME CONCEIT. HIS EARLY PLAYS INCLUDED LOVE'S LAST SHIFT [★] AND THE CARELESS HUSBAND; AFTER BECOMING MANAGER OF THE DRURY LANE THEATER IN 1710, IT WAS HIS ADAPTATION OF TARTUFFE—WHICH HE CALLED NONJUROR—THAT MADE HIM FAMOUS; BELOVED BY KING GEORGE I, IT PROBABLY LED TO HIS 1730 APPOINTMENT AS POET LAUREATE. FTP, NAME THIS AUTHOR OF THE 1740 AUTOBIOGRAPHY APOLOGY.

ANSWER: COLLEY **CIBBER**

14. UPON FINISHING IT IN 1938, ITS AUTHOR SAID, "MY OWN JUDGMENT OF THE BOOK IS ALREADY MADE, AND I THINK IT TRULY DESERVES BEING HIDDEN AWAY IN THE DARKNESS OF SOME CHEST." [★] IT WAS, FOR 29 YEARS, UNTIL MOSCOW MAGAZINE SERIALIZED IT IN 1967. BREAKING WITH SOCIALIST REALISM, IT FEATURES A PERSONIFIED CAT, AN ASSASSIN, A MYSTERIOUS WOMAN, AND AN INTERPRETER, WHO ALL SERVE THE DEVIL IN MOSCOW. FTP, NAME THIS NOVEL BY MIKHAIL BULGAKOV.

ANSWER: THE **MASTER AND MARGARITA** OR **MASTER I MARGARITA**

15. HE LIVES ON 57<sup>TH</sup> AND INDIANA IN CHICAGO'S SOUTH SIDE. HIS FATHER WANTS HIM TO BE A PAINTER; HIS MOM WANTS HIM TO BE A PRIEST. HE WANTS TO BE A FOOTBALL STAR [★]—OR THE NEIGHBORHOOD BULLY—BUT LIKE WEARY REILLY AND FIVE STAR HENNESSEY, HE FALLS INTO A WORLD OF ALCOHOLISM, CASUAL VIOLENCE, AND BLEAKNESS. DYING AT AGE 30, FTP, NAME THIS PROTAGONIST OF 1968'S A BRAND NEW LIFE AND, MORE FAMOUSLY, A 1930S TRILOGY BY JAMES T. FARRELL.

ANSWER: **STUDS** OR **STUDS LONIGAN**

16. NO. 1, *CALLING FOR THREE OBOES AND TWO HORNS, OBOES*, WAS APPARENTLY NEVER PERFORMED IN ITS COMPOSER'S LIFETIME. ALL WRITTEN IN MAJOR KEYS, NO. 1 HAS FOUR MOVEMENTS, [★] WHILE NO. 3, SCORED FOR NINE STRING INSTRUMENTS, HAS ONLY TWO; ALL THE OTHERS HAVE THREE. FTP, WHAT ARE THESE SIX WORKS REVISED AND THROWN TOGETHER FOR CHRISTIAN LUDWIG, NAMED AFTER THE REGION OF GERMANY WHERE LUDWIG WAS MARGRAVE?

ANSWER: **BRANDENBURG** CONCERTI OR CONCERTOS, BWV 1044-1049

17. CHARLES MONTGOMERY "SPIKE" STEWART DIRECTED THIS MAN'S PLAN 10 FROM OUTER SPACE IN 1991. HE SHARES HIS LAST NAME WITH A FISHING GEAR DEALER, [★] AND MAY BE RELATED TO A BAND FORMED IN 1988 WHICH PRODUCED THE ALBUM *HORMONALLY YOURS* IN 1991. HIS STORIES, THEMSELVES MOSTLY RIP-OFFS, HAVE BEEN RIPPED OFF BY ZEFFIRELLI, LUHRMANN, AND STOPPARD. FTP, NAME THIS MAN, KNOWN FOR SUCH OBSCURE PLAYS AS *ROMEO AND JULIET*.

ANSWER: WILLIAM **SHAKESPEARE**

18. BARNEY GUMBLE PLAYS HIM IN *THE SPRINGFIELD CIVIL WAR RECREATION SOCIETY*. NOT KNOWN FOR HIS MUSICAL INFLUENCE, [★] ONE OF THE TRACKS ON SUBLIME'S *ROBBIN' THE HOOD* IS A "HIGHWAY DUB" INDIRECTLY NAMED FOR HIM. THEY MIGHT BE GIANTS NAMED AN ALBUM AFTER HIM, AND HE APPEARS IN THE LINRE NOTES FOR *CIVIL WAR: ITS MUSIC AND SOUNDS*, ACCORDING TO *THE ALL-MUSIC GUIDE*. FTP, NAME THIS PRESIDENT OF THE UNITED STATES.

ANSWER: ABRAHAM **LINCOLN**

19. ONE OF ITS EARLIEST PROPONENTS WAS SIMON MAGUS, A FIRST-CENTURY JEWISH HETERODOX TEACHER [★] WHO INTRODUCED THE IDEA THAT EVIL RESULTED FROM A BREAK WITHIN THE GODHEAD. IN IT, THE UNCONSCIOUS SELF OF A MAN IS CONSUBSTANTIAL WITH THE GODHEAD, BUT A TRAGIC FALL PLACES MAN IN A WORLD ALIEN TO HIS REAL BEING. FTP, NAME THIS MOVEMENT WHICH EMPHASIZED THE REDEMPTIVE POWER OF KNOWLEDGE THROUGH DIVINE REVELATION.

ANSWER: **GNOSTICISM**

20. INVENTED IN 1976 BY WHITFIELD DIFFIE AND MARTIN HELLMAN, THE FIRST WIDELY-USED IMPLEMENTATION WAS CONSTRUCTED IN 1977 BY THREE MIT SCIENTISTS. [★] FURTHER DEVELOPED BY TAHER EL GAMAL AND PHILLIP ZIMMERMAN, IT GUARANTEES SECURITY OF DECRYPTION AT THE EXPENSE OF AUTHENTICATION. FTP, NAME THIS TYPE OF CRYPTOGRAPHY, WHICH INCLUDES THE RSA AND PGP ALGORITHMS, IN WHICH THE "KEY" NEEDED TO SEND AN ENCRYPTED MESSAGE IS AVAILABLE TO ALL.

ANSWER: **PUBLIC-KEY** OR **TWO-KEY** OR **ASYMMETRIC** CRYPTOGRAPHY [PROMPT ON EARLY "PGP" OR "RSA"]

22. *THE SAGA BEGAN WHEN HIS 1989 GRAY NISSAN PICKUP WAS FOUND IN MURPHY, NORTH CAROLINA, IN 1998. [★] CAVE EXPERTS, AN ARMY OF POLICEMEN, AND AN OBSCENELY LARGE REWARD HAVE ALL FAILED TO OBTAIN THE CAPTURE OF, FTP, WHAT MAN, WHOSE BOMBINGS AT THE OLYMPICS AND AN ABORTION CLINIC EARNED HIM A SPOT ON THE FBI'S 10 MOST WANTED LIST?*

ANSWER: ERIC **RUDOLPH**

1. *USED AS A BINARY COMPOUND WITH NITROGEN IN LASERS, SOME HISTORIANS HAVE SUGGESTED THIS ELEMENT'S DISCOVERER NAMED THE ELEMENT AFTER HIMSELF, [★] RATHER THAN HIS COUNTRY. LIQUEFYING AT JUST 86°F, THIS METAL'S ARSENIDE IS USED TO CREATE INTEGRATED CIRCUITS. IN LASERS. FTP, NAME THIS ELEMENT, WHICH MENDELEYEV CALLED EKA-ALUMINUM, ATOMIC NUMBER 31, DISCOVERED BY PAUL ÉMILE LECOQ.*

ANSWER: **GALLIUM**

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PHILADELPHIA EXPERIMENT V

Gundroppers: Boni

1. NAME THESE 19<sup>TH</sup> CENTURY AMERICAN WOMEN WRITERS, FOR THE STATED NUMBER OF POINTS.

[5] *HER DRED: A TALE OF THE GREAT DISMAL SWAMP, AND THE MINISTER'S WOOING* WOULD BE UTTERLY FORGOTTEN IF NOT FOR HER 1852 BEST-SELLER, FIRST SERIALIZED IN THE ABOLITIONIST WEEKLY *NATIONAL ERA*.

ANSWER: HARRIET BEECHER **STOWE**

[10] SHE GREW UP IN WHEELING, VIRGINIA, WHOSE INDUSTRIAL GROWTH LED TO HER MUCKRAKING IN NOVELS LIKE *JOHN ANDROSS* AND *WAITING FOR THE VERDICT* AS WELL AS THE *ATLANTIC MONTHLY* EXPOSÉ "LIFE IN THE IRON MILLS."

ANSWER: REBECCA HARDING **DAVIS**

[15] STOWE'S GREAT-NIECE, PART OF THE NATIONALIST MOVEMENT BASED ON BELLAMY'S *LOOKING BACKWARD*, SHE'S KNOWN FOR HER POETRY COLLECTION *IN THIS OUR WORLD*, AND HER ACCOUNT OF DEPRESSION *THE YELLOW WALLPAPER*.

ANSWER: CHARLOTTE PERKINS **GILMAN**

2. NAME THESE WINNING ENTRIES FROM A *WASHINGTON POST* "CONJUNCTION" CONTEST, 10 POINTS EACH. *WARNING: THESE AREN'T NECESSARILY TRUE "CONJUNCTIONS."* ANSWERS SUCH AS *FIDEL ON THE ROOF* ARE POSSIBLE.

1. "Would you kill him in his bed?/Thrust a dagger through his head?/I would not, could not, kill the King./I could not do that evil thing./I would not wed this girl, you see./Now get her to a nunnery."

ANSWER: ***Green Eggs and Hamlet***

2. "Alas, the challenge of locating Henry David Thoreau in each richly detailed drawing loses its appeal when it quickly becomes clear that he is always in the woods."

ANSWER: Where's Walden?

3. "William Faulkner and Sherwood Anderson tell the unforgettable story of one man's ambitious quest to nail every woman in his home town."

ANSWER: As I Lay Winesburg, Ohio

3. Name these playwrights from lesser-known works for 15, or from better-known titles for 5.

4. [15] *The Cyclops, Ion, The Phocian Maidens*

[5] *The Trojan Women, Medea*

ANSWER: Euripides

5. [15] *The Ecclesiazusae* [eh-KLEEZ-ee-ah-ZOO-say], *Plutus, Acharnians*

[5] *Lysistrata, The Wasps*

ANSWER: Aristophanes

4. Answer the following questions, 10 points each.

6. Over a third of this area's population has been killed since the Indonesian army invaded in 1975.

ANSWER: East Timor

7. The invasion followed a 1975 declaration of independence from Portugal by what political party?

ANSWER: Fretilin

8. A winner of the 1996 Nobel Peace Prize, he is the foreign minister-in-exile of East Timor.

ANSWER: José Ramos-Horta [do not accept "Carlos Belo"]

5. Answer the following questions about machine politics, for the stated number of points.

- [5] He helped defraud New York of up to \$30 million before the *New York Times* exposed him in 1872.

ANSWER: William Marcy ("Boss") Tweed

- [10] Huey Long's Louisiana machine ended when this man allegedly shot Long in 1935. He was shot by Long's bodyguards on the spot.

ANSWER: Dr. Carl Austin Weiss [HN: Long's bodyguards may have shot him by accident]

- [15] Though Boss Tweed ran Tammany Hall, this man was its smiling front man; after Tweed was exposed, he continued to lead Tammany until 1902.

ANSWER: Richard Crocker

6. ANSWER THE FOLLOWING ABOUT RECENT WRESTLING-RELATED HEADLINES, 15 POINTS EACH.

1. The Kansas City prosecutor has decided not to pursue criminal charges against the WWF for the death of this wrestler after he fell 78 feet from the roof of the Kemper Arena.

ANSWER: Owen Hart

2. This wrestler, who graced *Playboy's* best selling issue of the 90s, recently settled a sexual harassment suit with the WWF. She can't wrestle for three years, nor can she use the name Sable.

ANSWER: Rena Mero [prompt on “Sable”]

7. Name these works by Belá Bartók, 10 points each.

- a. In this one-act opera, Bartók’s only opera, Judith asks for “keys to open every door.”

ANSWER: Duke Bluebeard’s Castle [HN: I have not seen *Duke* used yet in a recording.]

- b. Known as *The Nine Noble Stags*, this tale of nine young men who are transformed into stags is Bartók’s only large-scale work for chorus and orchestra. Its opening scales are based on the Fibonacci series.

ANSWER: Cantata profana

3. This six-book set of 153 pieces, written from 1926 to 1939, was designed as a piano textbook.

ANSWER: Mikrokosmos

8. Now, some mundane mathematical memorization! As punishment for getting the previous tossup, you get to compute the following sums, for the stated number of points.

[10] the sum of  $i$  from  $i = 1$  to  $i = 100$

ANSWER: 5050

[20] the sum of  $i^3$  from  $i = 1$  to  $i = 20$ . *You have 15 seconds.* ANSWER: 44100

9. Identify these plays of Renaissance England, 10 points each.

1. Attributed to either Cyril Tourneur or Thomas Middleton, this 1607 black comedy involves the multiple hirings of hitman Vendici to carry out his profession—retribution killings.

ANSWER: The Revenger’s Tragedy

2. This 1614 Ben Jonson satire is largely plotless, features a puppet show, and shows characters such as John Littlewit, Ursula the pig woman, and Zeal-of-the-land Busy as typical, if random, rogues.

ANSWER: Bartholomew Fair

3. This 1633 John Ford drama explores the forbidden love of Giovanni and Annabella, the woman referred to in the title.

ANSWER: ’Tis Pity She’s a Whore

10. Name these authors of gritty urban novels, 10 points each.

4. Tom Wolfe cited this author's pacing as the "fastest achieved by a quality writer." He used that pace in such future noir thrillers as *The Postman Always Rings Twice* and *Mildred Pierce*.

ANSWER: James M(allahan) **Cain**

5. He adapted Cain's *Double Indemnity* for the screen, but is better known for his LA detective thrillers featuring Philip Marlowe.

ANSWER: Raymond Thornton **Chandler**

6. The best-selling African-American author of the 60s and 70s, this former street hustler chronicled ghetto life in books including *Pimp, Trick Baby*, and *Mama Black Widow*.

ANSWER: **Iceberg Slim** or Robert **Beck**

11. ANSWER THESE RELATED QUESTIONS, 10 POINTS EACH.

- A. THE POLISH CITY OSWIECIM [AUSH-VEE-EN-SIHM] IS KNOWN IN ENGLISH BY THIS NAME.

ANSWER: **AUSCHWITZ**

- B. THIS CAMP WAS THE "SUPPLEMENTARY" EXTERMINATION CAMP TO AUSCHWITZ.

ANSWER: **BIRKENAU**

- C. THIS MAN WAS THE SO-CALLED *ENGELSTODES* [EN-GEHLS-TOH-DEHS] OF AUSCHWITZ.

ANSWER: JOSEF **MENGELE**

12. TO THE WHOLE WORLD YOU MAY BE ICE-T, BUT TO YOUR MOTHER, YOU'RE LITTLE TRACY MARROW. GIVEN THE REAL OR ORIGINAL NAME, GIVE THE FULL STAGE NAMES OF THESE ARTISTS, 10 POINTS EACH.

1. Andre Young

ANSWER: **Dr. Dré**

2. Saul Hudson

ANSWER: **Slash**

3. Norman Cook

ANSWER: **Fatboy Slim**

13. GIVEN A HYBRID ORBITAL AND AN EXAMPLE, IDENTIFY THE CORRESPONDING ORBITAL GEOMETRY, 10 POINTS EACH.

- A.  $SP$ ,  $BEH_2$  [ $S$ ,  $P$ ; BERYLLIUM DIHYDRIDE]

ANSWER: **LINEAR**

- B.  $SP^3$  [ $S$ ,  $P$ , THREE], METHANE

ANSWER:

**TETRAHEDRAL**

- C.  $SP^3D$ ,  $PCL_5$  [ $S$ ,  $P$ , THREE,  $D$ ; PHOSPHORUS PENTACHLORIDE]

ANSWER:

**TRIGONAL BIPYRAMIDAL**

14. NAME THESE MICROECONOMICS TERMS, 15 POINTS EACH.

1. This type of equation expresses the relationship between the quantities of factors such as labor and capitalized and the amount of product obtained.

ANSWER: **production function**

2. The earliest statistical analyses of the production function tested the theory that labor and capital are reimbursed according to this quantity, the amounts added to production by the "last" man hired or the "last" unit of capital employed.



ANSWER: **marginal productivity**

15. Name these unusual neurological disorders, 15 points each.

1. The inability to recognize faces, this was the condition suffered by Oliver Sachs's *The man who mistook his wife for a hat*.

ANSWER: **prosopagnosia**

2. This conversion of one sense to another, such as hearing and sight, is a rare side effect of certain hallucinogens, especially bad acid trips.

ANSWER: **synesthesia**

16. 30-20-10. NAME THE ARTIST.

[30] HIS EARLY PAINTINGS, SUCH AS *MALE AND FEMALE* AND *THE MOON-WOMAN* DEMONSTRATE BOTH HIS REGIONALIST TRAINING AND INFLUENCES BY SURREALISM AND MEXICAN MURALISTS.

[20] BY THE END OF WWII, HIS FORMS WERE INCREASINGLY BREAKING DOWN INTO SWIRLS AS VERY CROWDED CANVASES REPRESENTED SIMPLE OBJECTS, SUCH AS *THE KEY* AND *THE TEA CUP*, BOTH FROM 1946.

[10] BY 1950 HIS CANVASES, SUCH AS *FULL FATHOM FIVE* AND *LAVENDER MIST: NUMBER 1*, HAD BECOME ENTIRELY ABSTRACT. HE ADOPTED ACTION PAINTING, AND WAS KNOWN AS "THE DRIPPER."

ANSWER: (PAUL) JACKSON **POLLOCK**

17. IDENTIFY THESE GEOGRAPHICAL FEATURES OF SOUTH AFRICA, 10 POINTS EACH.

- A. IT RISES IN LESOTHO, IT FLOWS WESTWARD FOR 1300 MILES, FORMING THE SOUTH AFRICAN-NAMIBIAN BORDER AND FLOWING INTO THE ATLANTIC OCEAN.

ANSWER: **ORANGE** OR **SENQU** RIVER

- B. IT RISES NEAR SWAZILAND AND FLOWS 500 MILES ALONG THE NORTHERN BORDER OF THE FREE STATE PROVINCE BEFORE JOINING THE ORANGE, OF WHICH IT IS THE MAJOR TRIBUTARY.

ANSWER: **VAAL** RIVER

- C. THE ORANGE AND VAAL RIVERS BOTH HAVE THEIR SOURCES IN THIS MOUNTAIN RANGE, THE HIGHEST PORTION OF THE EASTERN PART OF THE GREAT ESCARPMENT.

ANSWER: **DRAKENSBERG** OR **QUATHLAMBA** MOUNTAINS

18. NAME THESE NEAT-O PHYSICS EFFECTS FROM SHORT DESCRIPTIONS, 10 POINTS EACH.

1. When magnetic fields are present, atomic energy levels are split into a larger number of levels; spectral lines also split.

ANSWER: **Zeeman** effect

2. When charge carriers moving through a material experience a deflection because of an applied magnetic field.

ANSWER: (quantum) **Hall** effect

3. This demonstrates that photons have momentum—when a photon is fired at a stationary electron, the photon's frequency will decrease, showing that it has lost energy.

ANSWER: **Compton** effect

19. 30-20-10. Name the institution of higher learning.

[30] Its motto is *sic mentem proba di rectamus*.

[20] Fraternal organizations include "Balls and Shaft."

[10] It's the titular university from a 1994 Jeremy Piven-David Spade comedy.

ANSWER: **Port Chester** University or **PCU**

20. Name these figures from Celtic myth, 15 points each.

1. Saved from a river by Elphin, he served him thereafter. Defending his master against King Maelgwn [MALE-gwin], he outwitted the king's schemes to prove Elphin's wife unfaithful, and proved himself the greatest bard ever, with magical powers.

ANSWER: **Taliesin**

2. Daughter of Llyr [thlur] and Penarddun [pen-AR-thun], she was married to the king of Ireland, but spent three years as a kitchen slave. Her name means "White Raven."

ANSWER: **Branwen**

21. EXPAND THESE MGS, 15 POINTS EACH.

- A. BOOKER T. JONES LED THE GROUP BOOKER T. AND THE MGS—WHAT DOES THIS MG STAND FOR?

ANSWER: **MEMPHIS GROUP**

- B. THIS IS THE FULL NAME OF THE BRITISH RACING CAR COMPANY MG.

ANSWER: **MORRIS GARAGE**

22. 30-20-10. NAME THE ARCHITECT FROM THE WORKS.

[30] THE FAGUS FACTORY

[20] THE HARVARD GRADUATE CENTER

[10] THE BAUHAUS

ANSWER: WALTER ADOLPH **GROPIUS**