## 4

1 Answer these questions about spermatogenesis, 10 points each.
[10] What steroid hormone causes development of both secondary sexual characteristics and sperm?
ANSWER: testosterone
[10] Testosterone is produced by which cells, which respond to LH, or luteinizing hormone?
ANSWER: interstitial or Leydig [LYE-dig] cells
[10] Sertoli cells produce sperm when they receive testosterone from Leydig cells and FSH, follicle stimulating hormone, from what gland?
ANSWER: anterior pituitary gland

2 Answer these questions on waves, 10 points each.
[10] This type of wave oscillates but does not propagate.
ANSWER: standing wave
[1o] A set of three laws about waves along strings of fixed length are named for this $17^{\text {th }}$ century mathematician, better known for his work on prime numbers.
ANSWER: Marin Mersenne's laws
[1o] The first of Mersenne's Laws is sometimes named after this early Ionian geometer.
ANSWER: Pythagoras

3 Name these literary collections, 15 points each.
[15] Three novellas including "Old Mortality", "Noon Wine", and the title story, all focus on life's ambiguity, form this collection by Katherine Anne Porter.

## ANSWER: Pale Horse, Pale Rider

[15] This 1962 essay collection by Edmund Wilson presents various contemporaries' attitudes towards the Civil War, its effect on their lives, and life during Reconstruction.

## ANSWER: Patriotic Gore

4 Given an Imagist poem, name the poet, 10 points each.
[10] "Thirteen Ways of Looking at a Blackbird" ANSWER: Wallace Stevens
[1o] "The Walls Do Not Fall" ANSWER: H.D. or Hilda Doolittle
[1o] "Patterns"
ANSWER: Amy Lowell

5 Name these Biblical prophets, 10 points each.
[1o] He successfully revealed the meaning of Nebuchadnezzar's dreams.
ANSWER: Daniel
[1o] This prophet brought David the news of God's wrath after David's indiscretions with Bathsheba.
ANSWER: Nathan
[1o] The Horsemen, the Flying Scroll, and the Man with a Measuring Stick are three of this prophet's eight visions.
ANSWER: Zechariah [zeh-kuh-RYE-uh]

6 Name these poets from the Indian subcontinent, 15 points each.
[15] This early Indian poet is best known for the drama Sakuntala [sah-koon-TAH-lah].
ANSWER: Kalidasa
[15] An activist for Indian independence, her poetry collections include The Bird of Time.
ANSWER: Sarojini Naidu

7 Name these literary canines, 10 points each.
[1o] In Call of the Wild, this dog is stolen from his home and transported to Alaska.
ANSWER: Buck
[10] This faithful dog recognized his master Odysseus.
ANSWER: Argos
[10] In Two Gentlemen of Verona, this "sourest-natured" dog belongs to Launce.
ANSWER: Crab

8 Name these people and places prominent in the Korean War, 10 points each.
[10] He was appointed commander of UN forces in Korea in 1950.
ANSWER: Douglas MacArthur
[10] A tactical error by the North Korean army allowed US troops to maintain a perimeter around this coastal city.
ANSWER: Pusan or Busan
[10] This American Vice-Admiral negotiated a truce at Panmunjom.
ANSWER: C. Turner Joy
9 30-20-10. Name the painter.
[30] In The Dance of Life, a couple waltzes from youth on the left to old age-unfaithful old age for the man.
[20] This Expressionist painter considered all of his works, including Puberty, The Voice, and Madonna, part of a single entity, "The Frieze of Life."
[10] This artist is most famous for an 1893 painting about a figure on a pier in spiritual anguish.
ANSWER: Edvard Munch [prompt on "The Scream"]
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Penn Bowl 11. Boni by Duke.
10 Answer these questions on Iberian politics in the 17205,10 points each.
[10] A 1729 treaty between France, England, and Spain was signed in what port city, then Spain's "cultural capital?"
ANSWER: Seville or Sevilla
[1o] That same year, Portugal lost what port city in modern Kenya to Arab fighters?
ANSWER: Mombasa [mom-BAH-sah]
[10] The Spanish laid a 14-month siege on what British protectorate, seized during the War of Spanish Succession?
ANSWER: Gibraltar
11 For ten points each, name these Indian figures.
[10] This 10-headed demon tormented Vishnu as Hiranyakasipu and Sisupalpa.
ANSWER: Ravana
[10] Ravana kidnapped this daughter of Janaka, Vishnu's wife.
ANSWER: Siva or Shiva
[10] This incarnation of Vishnu killed Sisupala with a flaming disk, then sucked the demon's soul into his feet. ANSWER: Krishna

12 Name these parts of a flower, 10 points each.
[10] In the center of the flower is this female reproductive structure.
ANSWER: pistil
[10] On top of the pistil is this receptive surface on which pollen grains are deposited and grow.
ANSWER: stigma
[10] This is the external, usually green or leafy, part of a flower consisting of sepals.
ANSWER: calyx [KAY-liks]

13 Name these people who ruled Japan, 10 points each.
[10] In 1192, he was appointed the first shogun.
ANSWER: Minamoto Yoritomo
[1o] This clan, which broke from the Taira clan, took power after Yorimoto. They ruled behind the scenes with Fujiwara nobles as figureheads.
ANSWER: Hojo
[10] By 1336, this new shogunate had gained control of Japan.
ANSWER: Ashikaga or Muromachi

14 30-20-10. Give the common title.
[30] A fantasy novel by Julia Gray and a 1994 adventure game by Merit Software.
[20] A science fiction novel by Roger Zelazny and a Boris Karloff movie set in 1912 Greece.
[1o] A painting by Arnold Bocklin and a tone poem by Sergei Rachmaninoff, one of whose themes is the Gregorian chant Dies Irae.
ANSWER: The Isle of the Dead

15 Answer the following about radioactive elements, 10 points each.
[10] This entire series of elements, set below the periodic table, is radioactive.
ANSWER: actinides or actinide series [do not accept "lanthanides"]
[10] This element, the lightest element without stable isotopes, is about half the atomic mass of the next such element.
ANSWER: technetium or Tc
[1o] IUPAC gives this collective name to elements with triple-digit atomic numbers, all of which are radioactive.
ANSWER: transfermium elements
16 Answer these questions about the Irish Republican Army, 10 points each.
[10] In August 2001, three IRA members were arrested in Colombia for training members of what Marxist guerrilla group?
ANSWER: FARC or Revolutionary Armed Forces of Colombia or Fuerzas Armadas Revolucionarias de Colombia
[1o] The IRA's October 2001 disarmament followed the terms of this 1998 agreement.
ANSWER: Good Friday Agreement
[10] This former Senator helped negotiate the Good Friday Agreement, and chaired a 2000 committee that helped broker the peace process.
ANSWER: George John Mitchell
17 Answer these questions about Strange Brew, 10 points each.
[10] What is the quintessentially Canadian surname of bumblers Bob and Doug?
ANSWER: McKenzie
[10] Played by Max von Sydow, who runs his evil experiments on residents of the Royal Canadian Institute for the Mentally Insane?
ANSWER: Brewmeister Smith
[10] Like good Canadians, the McKenzies play hockey. What position do both Bob and Doug play?
ANSWER: goalie or goaltender

30-20-10. Name the economist.
[30] His first professorship was in 1951 at the University of Buffalo. He later did a stint at the University of Virginia before moving to Chicago.
[20] Born in 1910, he won the Nobel Prize in Economics in 1991.
[10] This author of the 1959 work The Problem of Social Cost has a theorem concerning it named after him.
ANSWER: Ronald Harry Coase

19 Name these early geologists, 15 points each.
[15] This German geophysicist postulated the existence of the supercontinent Pangaea.
ANSWER: Alfred Lothar Wegener [VEH-gih-nur]
[15] This English geologist's 1727 Observations on the Different Strata of Earths and Minerals espoused his theory of stratified rock formations.
ANSWER: John Strachey [STRAY-hee]

20 Name these Olympic figure skating favorites, 10 points per part.
[10] This gold medal favorite and World Champion separated from her long-time coach Frank Carroll in October.

ANSWER: Michelle Kwan
[10] This zooo Russian World Champion can hold one skate above his head to perform a Bielmann spin.
ANSWER: Yevgeny Plushenko
[10] At the 2000 World Championships in Vancouver, this pairs team won the title before a "home crowd."
ANSWER: Jamie Sale and David Pelletier
21 Given a state or province, name its highest point, 10 points each.
[10] New Hampshire ANSWER: Mount Washington
[1o] Virginia ANSWER: Mount Rogers
[1o] British Columbia ANSWER: Mount Robson
22 His novels include $A$ Bend in the River and Guerrillas. 10 points each.
[10] Name this Trinidadian recipient of the 2001 Nobel Prize in Literature.
ANSWER: Sir V (idiadhar) S(urajprasad) Naipaul
[1o] Naipaul wrote books subtitled "A Wounded Civilization" and "A Million Mutinies Now" that are set in this nation.
ANSWER: India
[1o] Willie Somerset Chandran, the son of a Brahmin father and an untouchable mother, emigrates from India to London in this novel, Naipaul's latest.
ANSWER: Half a Life

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23 Given a World War II battle and a nation, name that nation's field commander, 10 points each.
[1o] Great Britain at El Alamein [el AH-lah-meen]
ANSWER: Bernard Law Montgomery
[10] Germany at Normandy
ANSWER: Karl Rudolf Gerd von Rundstedt [ROOND-sted]
[10] Germany at Stalingrad
ANSWER: Friedrich Paulus

24 Given a pair of novels written in French, name the author, 10 points each.
[10] Consuelo, Indiana
ANSWER: George Sand or Amandine Aurore Lucie Dupin, Baronne Dudevant
[10] The Miracle of the Rose, The Thief's Journal
ANSWER: Jean Genêt [zhuh-NAY]
[10] Down There, Against the Grain
ANSWER: Joris Karl Huysmans
25 General Motors recently reached a $\$ 26$ billion deal with EchoStar Communications. 10 points each.
[10] EchoStar agreed to buy what satellite TV service from GM?
ANSWER: DirecTV
[10] The deal with EchoStar came after 18 months of futile negotiation with this company, seeking to vertically integrate DirecTV.
ANSWER: News Corporation
[10] DirecTV is actually owned by this company, whose controlling interest GM will sell to EchoStar.
ANSWER: Hughes Electronics, Inc.
26 Jose Batlle [bah-TIE] y Ordóñez modernized it through social and economic reforms that foreshadowed the New Deal. 15 points each.
[15] Name this Latin American nation. ANSWER: Uruguay
[15] Batlle represented this major political party, which fought a civil war with their rivals, the Blancos, after the 1903 election.
ANSWER: Colorado Party
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27 Given a TV show, name the Kid in the Hall who appeared on it, 10 points each.
[10] NewsRadio
ANSWER: Dave Foley or David Scott Foley
[10] Saturday Night Live, from 1995 to 1997
ANSWER: Mark McKinney
[10] The Larry Sanders Show, from 1995 to 1998
ANSWER: Scott Thompson

28 Name the instrument, or group of instruments, that represents these characters from Prokofiev's Peter and the Wolf, 10 points each.
[10] The Bird
[10] The Cat
[10] Peter's Grandfather

ANSWER: flute
ANSWER: clarinet
ANSWER: bassoon

