

Imperial College University Challenge Try-outs - Round 1

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1. Which physicist, who collaborated with Otto Hahn, hypothesised the process of nuclear fission to explain some of the decays of transuranic elements?

ANSWER: Lise Meitner

2. Ndzwani and Mwali, which both unsuccessfully attempted to declare independence in 1997, are autonomous islands in which federal republic, which itself gained independence from France in 1975, unlike nearby Mayotte?

ANSWER: Comoros

3. What three letters begin words referring to both the black-and-white wading bird found in the logo of the RSPB, and an oily fruit with the binomial *Persea americana*?

ANSWER: avo (avocet and avocado)

4. Name any of the three countries that do not have a rectangular shaped flag.

ANSWER: Nepal, Switzerland or Vatican City

5. After World War I, which formerly-German city on the Baltic Sea was declared a Free City? Its namesake Crisis led the Third Reich to invade Poland in 1939.

ANSWER: Danzig (accept Gdansk)

6. In quantum physics, the 'exchange interaction' is a non-classical force observed due to symmetric spin pairing resulting from which quantum mechanical principle?

ANSWER: Pauli Exclusion Principle

7. What often misunderstood term was coined by Adam Smith in *The Wealth of Nations* referring to the way in which participants in the free market were guided by their self-interest to promote the good of the public?

ANSWER: (the) invisible hand

8. Variations of what idiom can be seen in Shakespeare's play *The Merchant of Venice*, Thomas Gray's poem *Ode on the Death of a Favourite Cat, Drowned in a Tub Of Goldfishes*, and in Tolkien's novel *The Fellowship of the Ring*?

ANSWER: "All that glis/tters is not gold" (variations thereof accepted)

9. José Rodríguez de Francia, Francisco Solano López and Alfredo Stroessner were dictators of which Latin American country?

ANSWER: Paraguay

10. Isaac Newton and Gottfried Leibniz simultaneously and independently discovered which branch of mathematics?

ANSWER: calculus

11. What instrument usually accompanies Papageno's aria 'Ein Madchen oder Weibchen' in The Magic Flute and The Dance of the Sugar Plum Fairy in The Nutcracker?

ANSWER: Celesta

12. In biochemistry, the suffix -ose usually denotes what class of chemical compounds?

ANSWER: Sugars, Saccharides (or acceptable answer thereof) (1) <GJ>

13. Which jazz trumpeter and bandleader is responsible for the albums *Kind of Blue* and *Bitches Brew*?

ANSWER: Miles Davis

14. What colour can follow "Perfect" to title a film by Satoshi Kon, can precede "Valentine" to title a film by Derek Cianfrance, and by itself titles a film by Derek Jarman?

ANSWER: Blue

15. In astronomy, what term is used to describe objects of a known luminosity, such as type 1a supernovae?

ANSWER: standard candle

16. Schlemm's canal, Lockwood's ligament and the trabecular meshwork are anatomical structures in which organ?

ANSWER: Eye

17. The name of what substance can be formed from an anagram of the symbols of Tungsten, Tin and Oxygen?

ANSWER: SnOW

18. The surname of what art collecting family appears in the titles of museums in New York, Venice, Bilbao and a future museum in Abu Dhabi? The latter two were designed by Frank Gehry.

ANSWER: Guggenheim

19. What phenomenon is measured using the Fujita scale?

ANSWER: intensity of tornadoes

20. Thomas of Woodstock, Lionel of Antwerp and John of Gaunt were all sons of which English monarch?

ANSWER: Edward III

21. First discovered in Poland in 1992 and spreading to the UK by 2012, the fungal pathogen *Hymenoscyphus fraxineus* causes a disease known as dieback which affects which genus of tree?
ANSWER: Ash or Fraxinus
22. The tenure of which Prime Minister saw all of these events occur: The arrest of the Gang of Four by Hua Guofeng, the coronation of Jean-Bédél Bokassa, the accessions of Popes John Paul I and II, as well as the release of Star Wars?
ANSWER: James Callaghan (4)
23. Taken from the Sanskrit word for 'to sprinkle', what four-letter word describes a dairy product which is made by simmering butter and then discarding the residue?
ANSWER: ghee
24. Siccar Point in Berwickshire is the location of what geological feature, named after the Scottish geologist who discovered it in 1788 and used it to provide proof of his theory of uniformitarianism?
ANSWER: Hutton's Unconformity
25. Which Capcom video game franchise sees the titular character face off against other robots commanded by Dr. Wily?
ANSWER: Mega Man
26. Sacked by Genghis Khan in 1220, which city was declared the capital of the Timurid Empire in 1370? It is now the second largest city in Uzbekistan.
ANSWER: Samarkand
27. What style of writing features in the title of a collection by pioneer Michel de Montaigne, who examined topics including cannibals and thumbs.
ANSWER: essays
28. Name one of the three women known as the Trimates, known for their pioneering research in primatology.
ANSWER: Jane Goodall, Dian Fossey or Birute Galdikas
29. In Sikhism, name or describe three of the 5 K's as commanded by Guru Gobind Singh.
ANSWER: kesh (uncut hair), kangha (comb), kara (bracelet), kirpan (sword) OR kachera (undergarment)
30. The pattern of stars seen over its former capital city on 15th November 1889, and a banner displaying a motto that translates as 'order and progress', are features on the flag of which country?
ANSWER: Brazil

31. With the mascot Ferris the crab, which programming language was voted "most loved programming language" every year from 2016 to 2023 by stackoverflow users?

ANSWER: Rust

32. What colour can be used in phrases to describe: a misleading clue, excessive bureaucracy, being in debt, and being caught doing something wrong.

ANSWER: red (...herring, ...tape, in the..., ...-handed.)

33. Susan Sontag and Roland Barthes both wrote important essays examining which art form, which Sontag argues is inherently voyeuristic?

ANSWER: Photography

34. Named after a German-born industrialist, the Mond process uses hydrogen and carbon monoxide to isolate which transition metal?

ANSWER: nickel

35. Scotch bonnet peppers and allspice are the key ingredients in what style of Caribbean cooking?

ANSWER: jerk [do not accept "jerky"]

36. Chantal Goya, Serge Gainsbourg and Françoise Hardy all made what genre of French pop music which takes its name from a repeated exclamation?

ANSWER: Yé-yé or Yéyé

37. Hoity Toity, Entdecker and Settlers of Catan are board games designed by which German winner of the Spiel des Jahres award, who died in April 2023?

ANSWER: Klaus Teuber

38. Arch-Sleepyhead, Wonder of the World, and Barbarossa were nicknames for Holy Roman Emperors with what name?

ANSWER: Frederick

39. SELNEC, standing for 'South East Lancashire, North East Cheshire', was once proposed as a name for which county, created under the Local Government Act 1972?

ANSWER: Greater Manchester

40. Which British choreographer is most famous for his reimaging of the Tchaikovsky classic, Swan Lake, with an all-male cast?

ANSWER: Matthew Bourne

41. The Komemnoi (said like Komemnee), Doukes and Angeloi (Angelee), were all ruling dynasties of which European Empire?

ANSWER: Byzantium (accept Eastern Roman)

42. Most recently working on *Queen Charlotte* and *Inventing Anna*, which prolific showrunner is best known for creating *Grey's Anatomy* and *Scandal* and producing *How to Get Away With Murder*?
ANSWER: Shonda Rhimes
43. Which French filmmaker made *A Trip to the Moon*, which features a famous shot in which a spaceship collides with the moon's face?
ANSWER: George Méliès
44. The name for what dog breed comes from the German for "badger dog", because they were used to chase animals into burrows?
ANSWER: dachshund
45. What number is obtained when adding together the Mohs hardnesses for Orthoclase and Quartz?
ANSWER: 13 (6+7)
46. Larks' Tongues in Aspic", "Cheap Queen", "Take Me to Your Leader", "Dancing in the Moonlight", and "Nonagon Infinity" are all albums by musical artists with what short word in their names?
ANSWER: King (Take Me to Your Leader - King Geedorah, Cheap Queen - King Princess, Dancing in the Moonlight - King Harvest, Nonagon Infinity - King Gizzard and the Lizard Wizard, Larks' Tongues in Aspic - King Crimson)
47. Who preceded Ka as pharaoh of Upper Egypt and is possibly the earliest historical person with a known name?
ANSWER: Iry-Hor (vowels are inferred, so accept r-Hr with any vowels, or Ro)
48. What colour can be used to describe the garb of Hester Prynne and Sir Percy Blackney in the titles of their respective novels?
ANSWER: Scarlet
49. Stephen Weinberg, Sheldon Glashow and Abdus Salam shared the Nobel Prize in Physics for their work on which theory, which combined two of the fundamental forces of nature?
ANSWER: electroweak [accept "electromagnetic and weak"]
50. Said to have been influenced by Byzantine art of the 15th century, which post renaissance artistic movement incorporates a broad colour palette and exaggerated bodily appendages in painting? Proponents of the movement include Parmigianino, Arcimboldo, and Tintoretto.
ANSWER: Mannerism (accept Maneiri)
51. A single word answer is needed. Also called water bears or moss piglets, what phylum of micro-animals were first described by Johann Goeze in 1773? They are known to survive in extreme conditions, up to and including outer space.

ANSWER: tardigrades or Tardigrada

52. Which sociologist stated that "The problem of the Twentieth Century is the problem of the colour-line." in his work *The Souls of Black Folk*?

ANSWER: W.E.B. Du Bois

53. In the 2016 European Football Championship, which nation defeated and eliminated England in the Round of 16?

ANSWER: Iceland

54. Stemming from the works of Goethe and coming from the German for educational / formative novel, what term describes a classic coming of age novel? Examples include Dickens' *Great Expectations* and *David Copperfield*.

ANSWER: bildungsroman

55. A two-word answer is needed. Featuring a spidermonkey and hummingbird, what name is given to the giant images produced on the Atacama desert floor by their namesake culture?

ANSWER: Nazca Lines

56. The singer Madonna used artworks by what art-deco artist in her music videos for 'Vogue' and 'Express Yourself'? The artist in question is known for the paintings 'Women bathing', 'Andromeda' and 'Self portrait in the green Bugatti'.

ANSWER: Tamara de Lempicka

57. Its highest point being Pen-y-fan, which national park is now known officially by its Welsh name only, the park authority having ceased to use its English name in 2023? Either name is acceptable.

ANSWER: Brecon Beacons or Bannau Brycheiniog

58. 'Winter Wind', 'Torrent', 'Tristesse' and 'Revolutionary' are all titles given to piano works in which form by Chopin? The name comes from the French for study.

ANSWER: Etude

59. Which letter, which begins the name of only one sovereign state, also begins the names of the capitals of Armenia, Cameroon, Ivory Coast and Nauru?

ANSWER: Y

60. Despite being incorrect, the Greek word *epiousion* (e-pee-oo-see-on) appearing in the original text of the Lord's Prayer is generally translated using which word in English? The Greek term appears in no other text and is probably more correctly translated as 'superessential'.

ANSWER: daily

61. Examples including the former kingdom Protista, what term, coined by Steven Jay Gould in 1985, refers to a paraphyletic or polyphyletic group into which organisms are placed because they do not fit easily into other taxonomic groups?

ANSWER: wastebasket taxon, or wastebin or dustbin or catch-all taxon

62. Which Republican member of congress became the first Speaker of the House in history to be voted out of the position in October?

ANSWER: Kevin McCarthy

63. Which ancient philosopher lived in a barrel and mockingly said a plucked chicken was a man? He was one of the founders of the school of Cynicism.

ANSWER: Diogenes

64. As their pinyin names are identical apart from tone markings, the Chinese provinces whose capitals are Taiyuan and Xi'an are distinguished by adding an extra letter 'a' to one of them. Name either province.

ANSWER: Shanxi or Shaanxi

65. What word meaning to get into an out-of-control frenzy, originates in a term used to describe fierce Scandinavian warriors who wore bear skin?

ANSWER: berserk

66. Located in modern-day Ghana, which empire fought the War of the Golden Stool against the British, under the leadership of Queen Yaa Asantewaa?

ANSWER: Ashanti

67. (pause between quotes) What figure can follow "Good enough", "Refrigerator", and "Surrogate" to name concepts in the work of Donald Winnicott, Leo Kanner, and Harry Harlow?

ANSWER: Mother

68. Coming from prizes given at American carnivals, what four word phrase means almost but not quite winning something. It was popularised after its use in the 1935 film *Annie Oakley*.

ANSWER: "close, but no cigar"

69. Alongside Drew Weissman, which scientist won the 2023 Nobel Prize in Medicine for researching nucleoside bases which enabled development of mRNA COVID vaccines?

ANSWER: Katalin Karikó

70. Jack Kerouac, Allen Ginsberg and William S. Burroughs formed the foundation of which American literary movement?

ANSWER: Beat poets/generation

71. Coming from the Latin for standing out from the flock, what adjective that has now come to mean outstandingly awful and excessive, originally meant remarkably good.

ANSWER: egregious

72. In what original language were the following short stories written? The Overcoat, Queen of Spades and The Lady and the Dog.
ANSWER: Russian
73. Which movement first posited by Ebenezer Howard promotes satellite communities surrounding a central city and separated with greenbelts?
ANSWER: Garden City
74. *Ode to Aphrodite* is the only complete poem by which ancient poet from the island of Lesbos?
ANSWER: Sappho
75. Answering with the usual English name, give any of the three political alliances, or major parties within those alliances, that are likely to form a coalition following the 2023 Polish general election which will replace the United Right government.
ANSWER: Civic Coalition, Third Way or The Left (accept Civic Platform or New Left or Polish People's Party or Poland 2050 or accept acronyms)
76. According to Josephus, which son of Abraham and Hagar was the progenitor of the Arabs? In Islam he helped his father construct the Kaaba.
ANSWER: Ishmael [accept Isma'il]
77. Known for creating a form of stop motion model animation known as "Dynamation", which animator is known for his work on "Clash of the Titans" (1981) and "Jason and the Argonauts"?
ANSWER: Ray Harryhausen
78. Ralph Waldo Emerson and Henry David Thoreau were important essayists in which philosophical, spiritual and literary movement which emphasised the inherent goodness of people and nature?
ANSWER: Transcendentalism
79. Consisting of movements like toprock, downrock, freezes and power moves, which sport will be the only one to debut in the 2024 Paris Olympics?
ANSWER: Breakdancing
80. Which Japanese composer, who died earlier this year, was celebrated for his film score to the 1983 film Merry Christmas Mr Lawrence?
ANSWER: Ryuichi Sakamoto
81. Molecules with which functional group are synthesised from the Wittig reaction? Ozonolysis of these groups results in the formation of carbonyls.
ANSWER: alkenes

82. The famous aria "When I am Laid in Earth" is from which opera by baroque composer Henry Purcell?

ANSWER: Dido and Aeneas

83. NoViolet Bulawayo, Tsitsi Dangarembga and Doris Lessing are all authors from which African country?

ANSWER: Zimbabwe

84. What title is given to a series of paintings by Frank Stella including *The Marriage of Reason and Squalor*? This title is shared by a series of 14 paintings originally painted onto the walls of the Deaf Man's Villa in Madrid.

ANSWER: (The) Black Paintings

85. By winning the final rapid game after the classical portion was tied, who earlier this year defeated Ian Nepomniachtchi [Yan Neh-pom-nee-shee] to become the World Chess Champion?

ANSWER: Ding Liren

86. What word fills in the blank of these book titles: [BLANK] at Point Zero by Nawal el Sadaawi and [BLANK] in the Dunes by Kōbō Abe?

ANSWER: Woman

87. The play by Tom Stoppard, *Rosencrantz and Guildenstern are Dead*, feature the names of courtiers at Elsinore castle from which Shakespeare play?

ANSWER: Hamlet

88. Coined by Marcel Duchamp, what term was used to refer to the works of Alexander Calder? Revolutionising sculpture, they were said to balance form and colour through continuous movement, like an animated abstract painting.

ANSWER: mobile

89. Vasopressin and which other hormone is secreted from the posterior pituitary gland? Unlike prolactin, this hormone causes milk letdown, and is secreted during the process of hugging.

ANSWER: oxytocin

90. What decade of the Gregorian calendar saw all of the following take place: The release of the first ever feature film, Norwegian independence from Sweden, the Battle of Tsushima and the Great San Francisco earthquake?

ANSWER: 1900s

91. Sometimes also used to refer to the Kuril Islands and Sakhalin, Ezo was until 1869 the official name of which island, the second-largest in Japan?

ANSWER: Hokkaido

92. What given name links: suffragettes who respectively wrote the Suffragette march and taught members of the movement Jujitsu, the French singer known as the 'Little Sparrow', and the first woman to win the Pulitzer Prize for Fiction?
ANSWER: Edith (Sitwell, Garrud, Piaf, Wharton)
93. With its capital at Saint John's, which province was the last to join Canada? The country's eastern point, Cape Spear, is situated in this doubly-named province.
ANSWER: Newfoundland and Labrador
94. What name is shared by a fragmentary epic poem by Keats based on the Titanomachia, and a science-fiction novel based on the Canterbury tales in which pilgrims travel to the Time Tombs, which are guarded by The Shrike.
ANSWER: Hyperion
95. Two American National Parks rededicated to the Underground Railroad are named after which abolitionist who will soon feature on the \$20 bill?
ANSWER: Harriet Tubman
96. Jaculus in Egyptian mythology, Vritra in Vedic Hinduism, Ao Guang in Chinese folklore and Fafnir in Norse mythology are all entities which take the form of what mythical creature?
ANSWER: Dragon
97. Give the film and photography technique named after a nationality in which the shot is not parallel with the horizon but instead slanted.
ANSWER: Dutch Angle
98. With a frontispiece consisting of a large king composed of many little people, which book by Thomas Hobbes argues that we need an absolute sovereign to prevent a "war of all against all"?
ANSWER: Leviathan
99. What 6 letter word links: a form of English folk dance, the director of the documentary *The Thin Blue Line*, and the designer of *Strawberry Thief* and *Willow Bough*?
ANSWER: Morris (dancing, William, Errol)
100. A famed example of what poetic form concerns a frog jumping into a pond? This poetic form typically contains a cutting word.
ANSWER: Haiku