

# Jack Kilby Science and Technology Quiz 2006 Finals

## Delhi Finals

1. Identify him.



Ans: Alan Turing

2. Identify this animal.



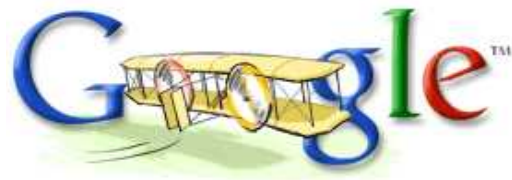
Ans: Okapi

3. Name the constellation found on the national flags of Australia and Papua New Guinea.



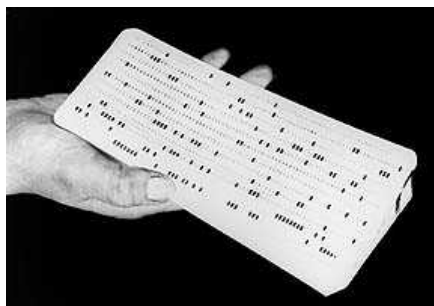
Ans: Southern Cross Constellation

4. Google Doodle – On what occasion did the Google Logo look like this?



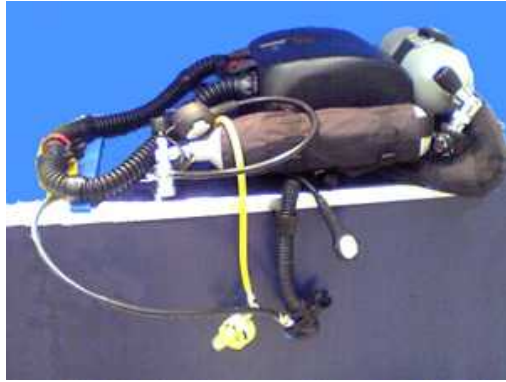
Ans: 100<sup>th</sup> Anniversary of Flight

5. What is the person holding in his hand?



Ans: A Punch Card

6. Give an 8-letter word to describe the contraption. Inventor is on the right.



Ans: Aqualung (Invented by Jacques-Yves Cousteau)

7. 'Cyanide tastes like sweet candy' is a mnemonic to remember what in the human body?

Ans: Names of bones in the vertebral column (The order of the bones in the spinal column is Cervical, Thoracic, Lumbar, Sacrum, Coccyx)

8. What was used for the first time during the 1912 Stockholm Olympics which made a tremendous impact to the way races got conducted?

Ans: Photo finish

9. 10 elements in all were discovered by the same person. 9 of them are listed below. What is the 10<sup>th</sup>?

- Plutonium
- Americium
- Curium
- Berkelium
- Californium
- Einsteinium
- Fermium
- Mendelevium
- Nobelium
- ?

Ans: Seaborgium. All 10 elements were discovered by Glenn Theodore Seaborg (April 19, 1912 – February 25, 1999) who won the 1951 Nobel Prize in Chemistry for 'discoveries in the

chemistry of the transuranium elements'. He also contributed to the discovery and isolation of ten elements, developed the actinide concept and was the first to propose the actinide series which led to the current arrangement of the Periodic Table of the Elements.

10. What gets its name from the ugly creatures you see? (video clip from a movie)



Ans: Yahoo

(In Gulliver's Travels by Jonathan Swift, a Yahoo is a vile and savage creature, filthy and with unpleasant habits, resembling human beings far too closely for the liking of Lemuel Gulliver, who finds the calm and rational society of the Houyhnhnms far preferable.)

11. It is 75 percent saltpetre, 14 percent charcoal, and 11 percent sulphur.

In Europe, the first written mention of the composition of this in express terms was in Roger Bacon's *De nullitate magiæ* at Oxford in 1216.

Ans: Gunpowder

12. It was invented in 1679 by Denis Papin, a French physicist, and assistant to Robert Boyle. It was originally called as the 'Engine for Digesting Bones'.

Ans: Pressure Cooker

13. It was invented by Art Fry in 1973. 3M is the company which invented and manufactures them. It is one of their best known products.  
Ans: Post-it-Notes
14. Jesse W. Reno, an 1883 engineering graduate of Lehigh University, invented it and installed it as an amusement ride at Coney Island, New York in 1897. The original prototype was little more than an inclined belt with wooden slats or cleats on the surface for traction. The incline was as steep as 25°. This machine won the first prize at the Paris 1900 Exposition Universelle in France.  
Ans: Escalators
15. In 1826, a Stockholm-based scientist, John Walker, accidentally invented it. Major Components of this are – Potassium Chlorate, Antimony, Sulphide and White Phosphorus.  
Ans: Friction Match
16. The basic design has remained unchanged since 1794, when Philip Vaughan of Carmarthen patented it for use in his carriage wheels.  
Ans: Ball-Bearings
17. In 1905, this was published as *Electrodynamics of Moving Bodies*. What?  
Ans: The Special Theory of Relativity
18. This word is borrowed from the Persian word 'Zarnikh' meaning 'yellow ornament'. Which word?  
Ans: Arsenic. *Note from the people compiling this downloadable edition of the quiz: The question is probably wrong, because the origin of the word 'arsenic', as listed in the Oxford English Dictionary, is the Greek word 'arsenikon'.*
19. Which word connects - The process of intentionally introducing impurities into an extremely pure semiconductor in order to change its electrical properties and an illegal activity in sports?  
Ans: Doping
20. *Welcome to the Dungeon (c) 1986 Brain & Amjads (pvt) Ltd  
VIRUS\_SHOE RECORD V9.0 Dedicated to the dynamic  
memories of millions of viruses who are no longer with us today  
- Thanks GOODNESS!! BEWARE OF THE er..VIRUS: this program  
is catching program follows after these messages....\$#@%\$@!!*

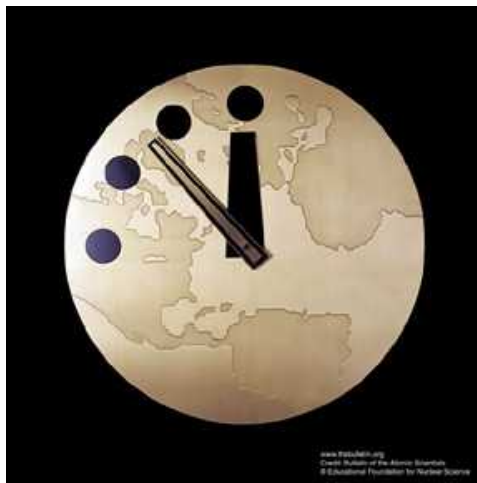
This message came from a software created in 1986 by two brothers Basit and Amjad Alvi from Lahore. What is its significance?

Ans: It was the first ever PC Virus (Name of the virus: Brain)

21. The hands in a clock move in a clockwise direction. What is the origin of this direction?

Ans: Shadow of a sundial

22. This symbolic clockface has been maintained since 1947 by the Board of Directors of the Bulletin of the Atomic Scientists at the University of Chicago. What is it known as and what is the origin / funda behind it?



Ans: It is known as the 'Doomsday Clock'. It uses the analogy of the human race being at a time that is a 'few minutes to midnight' where midnight represents destruction by nuclear war.

23. Where would you find the: Island of Reil, Aqueduct of Sylvius and Clarke's Columns?

Ans: In the Human Body

24. One postulate was that it was derived from the girth of a person's waist, while another claim held that the measure was invented by Henry I of England as being the distance between the tip of his nose and the end of his thumb. What?

Ans: Measure of a Yard

25. This is the inside of what?



Ans: The Eiffel Tower

26. Which law in Physics explains the expansions of a spring, when pulled by a load?

Ans: Hooke's Law

27. Which periodic comet was last seen in 1986 and is scheduled to re-appear 75 years later in 2061?

Ans: Halley's Comet

28. What mathematical term refers to anything that is not in a straight line?

Ans: Non-Linear

29. What is the branch of zoology that deals with the study of eggs, especially birds' eggs called?

Ans: Oology

30. What is the temperature, at which the moisture content in the air will saturate the air?

Ans: Dew Point

31. What term usually used to describe the foaming or fizzing that results from gas?

Ans: Effervescence

32. Give me a word to connect the two.

**Latin word  
for pebbles**



Ans: Calculus. That's Professor Calculus from Tintin and the Latin word for 'pebbles' is Calculi.

33. Which operating system was originally developed in the 1960s and 1970s by a group of AT&T employees at Bell Labs including Ken Thompson, Dennis Ritchie, and Douglas McIlroy?

Ans: Unix

34. What word describes the application of a broad spectrum of sciences to answer questions of interest to the legal system?

Ans: Forensics

## **National Finals**

35. Identify the flower.



Ans: Giant Rafflesia

36. Identify her.



Ans: Anousheh Ansari

37. This is the logo of Biocon India Limited. The logo is a stylized version of what?



Ans: Double Helix

38. Who is this person?



Ans: Anton Van Leeuwenhoek

39. Major anthropological find in recent times. What is its nickname?



Ans: Hobbit

40. This is the view of what?



Ans: The Five Great Lakes of North America

41. In 1940, when the Nazis raided the Pasteur Institute in Paris and tried to open Pasteur's crypt, they were stopped by the caretaker. On being forced, he chose to commit suicide by shooting himself with his World War I service revolver rather than allow the Wehrmacht to enter the Pasteur's crypt. Who was this person who had a good reason no to let the Nazi's desecrate Pasteur's crypt?

Ans: Joseph Meister. He was the first person to be inoculated against rabies by Louis Pasteur, and the first person to be successfully treated for the disease.

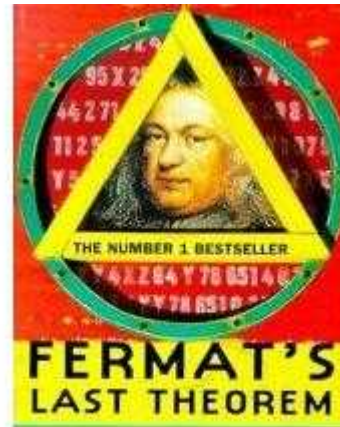
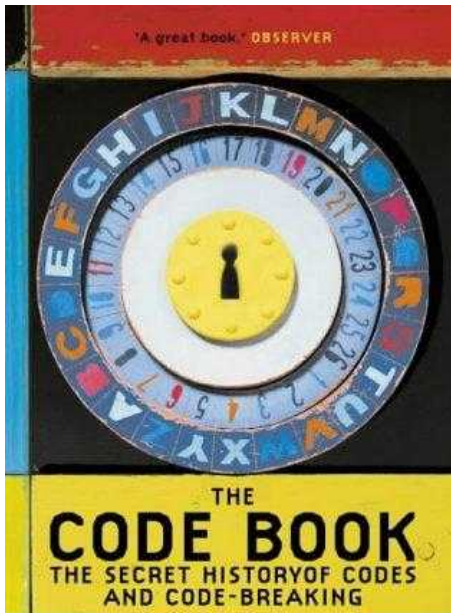
42. What famous number do we get from the following formula?

$$\varphi = \frac{1 + \sqrt{5}}{2}$$

Ans: Phi (The Golden Ratio)

$$\varphi = \frac{1 + \sqrt{5}}{2} \approx 1.618033989.$$

43. Three Books. One Writer. Who? (Note – The name of the writer has been blanked in all 3 images)

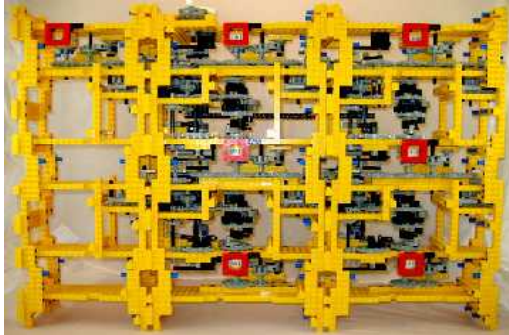


Ans: Simon Singh

44. At what temperature does cocoa butter melt?

Ans: Human body temperature (98.4 Degrees Fahrenheit)

45. This is a Lego model of what?



Ans: Charles Babbage's Difference Engine

46. The existence of this element was kept as a war secret. It was referred to by the code 'Tube Alloy Metal'. Which element?

Ans: Plutonium

### **Themed Connection Round – (Questions 48-56)**

#### **Part I**

47. Four letters to connect the plant on the left and her.



Ans: Moss. The vegetation is moss (small, soft plants that are typically 1-10 cm tall) and the person is Kate Moss, a supermodel.

48. 2 is made from something which looks like 1 and is normally mistaken to be 1. 2 is used in Chemistry Labs to determine some scale.

Ans: Litmus

49. 3 is a colour that normally represents 8.3 on that scale.

Ans: Blue

## Part II

50. This is one of the most legendary photographs ever taken. Which organization has the original photo?



Ans: NASA. This is the photo of the 'Earthrise'.

51. B was built by A as an X-Ray Observatory. The name was chosen through a naming contest which attracted 6,000 entries from fifty states and sixty-one countries. Identify B.

Ans: Chandra X-Ray Observatory

52. B was named after a famous scientist C who had become a US citizen in 1953. Identify C.

Ans: Subrahmanyan Chandrasekhar

## Part III

53. The Time Magazine has an interesting tradition of selecting a 'Man of the Year' for a special issue at the end of every year. In 1982, Time Magazine gave that honour to - \_\_\_\_\_. Fill in the blanks.

Ans: The Computer

54. A cost-effective version of A is being developed in India. It has been named B. Identify B (a small handheld computer).

Ans: Simputer

55. B was driven by the Computer Science Department of G, a reputed science institute in the country. Identify G.

Ans: IISc (Indian Institute of Science) Bangalore ('Gamma')

Themed Connect: CV Raman (Connection of the Final Answers of all the three sets i.e – Connect: '3', 'C' and 'Gamma'.)

56. All of you have heard of knuckles cracking. Tell me why.

Ans: When you stretch or bend your finger to pop the knuckle, you are causing the bones of the joint to pull apart. As they do, the connective tissue capsule that surrounds the joint is stretched. By stretching this capsule, you increase its volume. And as we know from chemistry class, with an increase in volume comes a decrease in pressure. So as the pressure of the synovial fluid drops, gases dissolved in the fluid become less soluble, forming bubbles through a process called cavitation. When the joint is stretched far enough, the pressure in the capsule drops so low that these bubbles burst, producing the pop that we associate with knuckle cracking.

57. When a car race starts on a dry day, a particular kind of tyre is used. When it starts raining, everyone rushes to the pit and changes tyres. Explain.

Ans: Different kinds of tyres have different surfaces. When it starts raining, teams change tyres to ones which face more friction from the road surface, to get a better grip while steering.

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