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Vijay Bhatkar: The Engineer Behind India’s First Supercomputer

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Vijay Bhatkar: The Engineer Behind India’s First Supercomputer

Practice MCQs

At a glance

This lesson follows the engineer who led India to build its own supercomputer.

01 **1946** Born at Muramba, in Akola district.
02 **1988** C-DAC was set up, with Bhatkar as its head.
03 **1991** PARAM 8000 was finished in July.
04 **2015** He received the Padma Bhushan.

- The United States refused to sell India a Cray supercomputer.
- C-DAC then built the PARAM series, starting with PARAM 8000.
- C-DAC also worked on Indian scripts for computers.

Source: IIT Delhi alumni, Bhatkar profile.

Source: C-DAC, HPC supercomputing systems.

C-DAC The Centre for Development of Advanced Computing.
Gigaflop One billion calculations each second.
Transputer A chip made for parallel computers.
Parallel computer Many processors share one job.

In the late 1980s the United States would not sell India a Cray supercomputer. India decided to build its own. Vijay Bhatkar led that effort. This lesson follows his life, the PARAM machines, his work on Indian-language computing and the roles he held later.

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2. Why C-DAC began
3. After PARAM 8000
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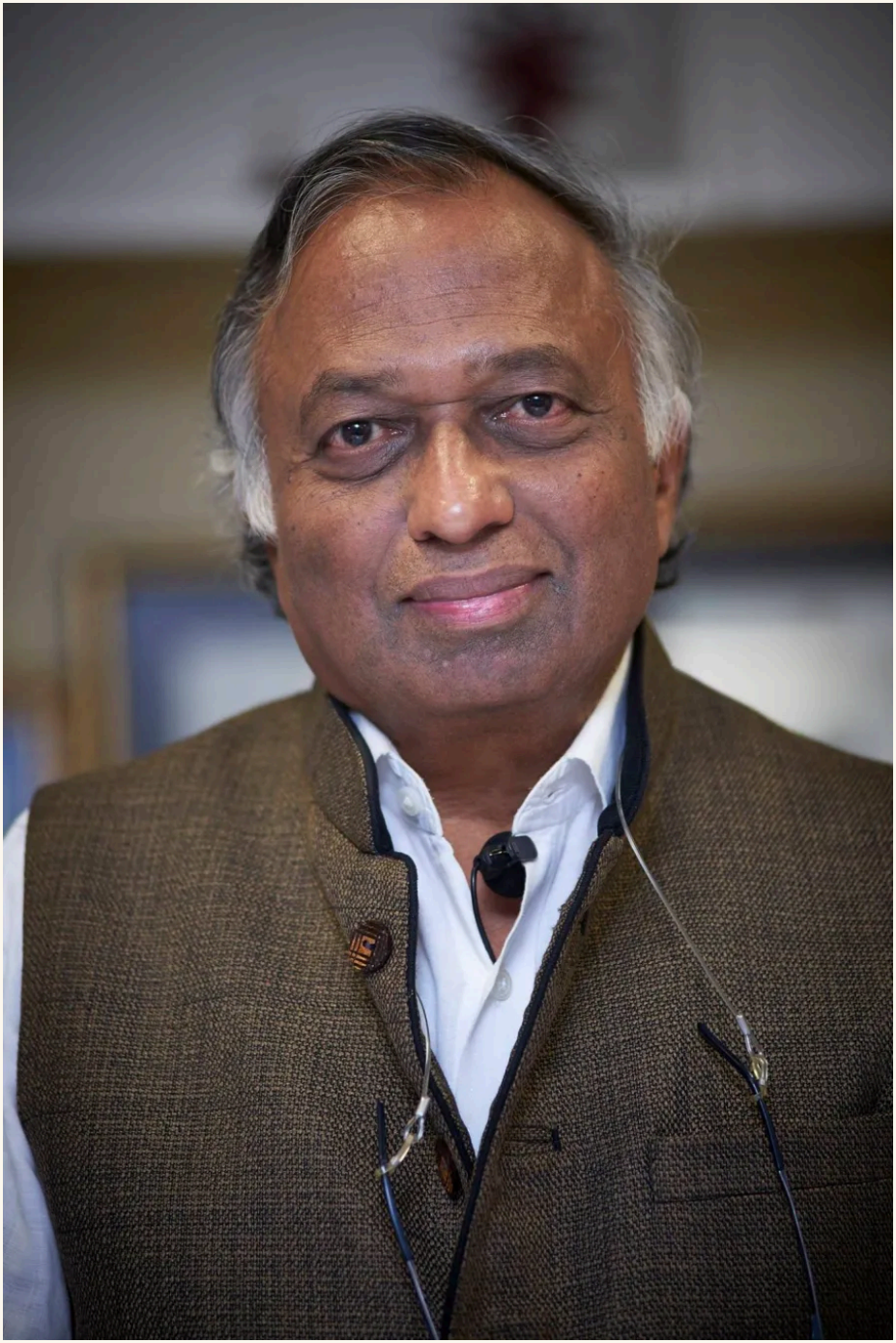
Who is Vijay Bhatkar, and how did he begin?

Vijay Pandurang Bhatkar is an Indian computer scientist. He is best known as the architect of the PARAM series of supercomputers.

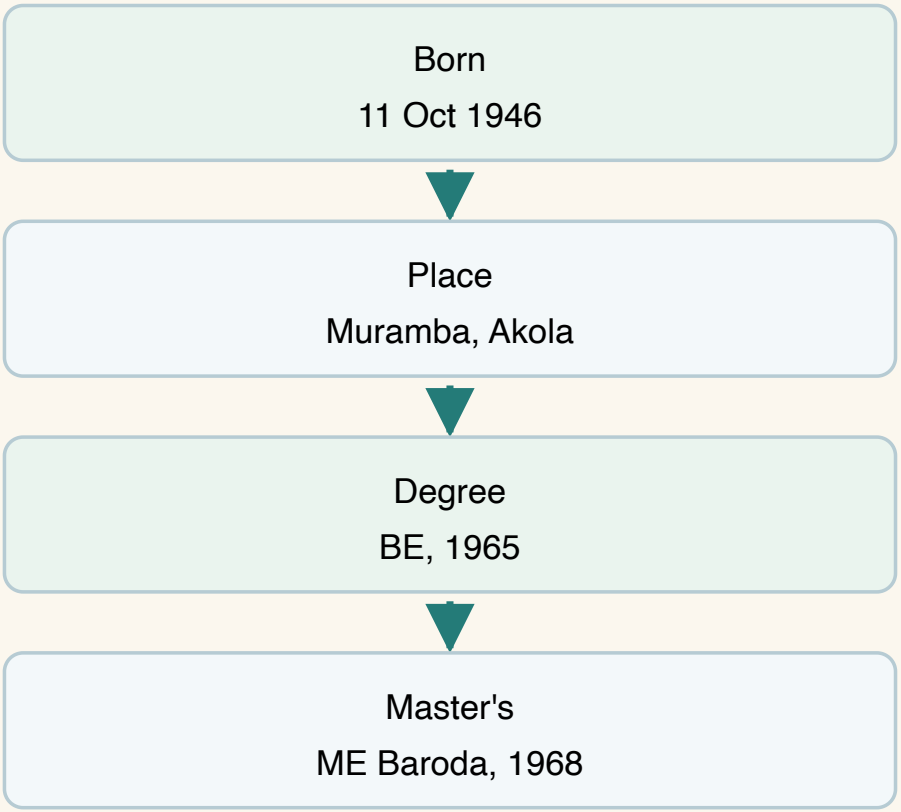
1. Where was he born, and what did he study?

Bhatkar was born on 11 October 1946 at Muramba. It lies in Akola district of Maharashtra. He took a BE degree in electrical engineering at Nagpur University in 1965.

He then earned an ME from M.S. University, Baroda, in 1968. He finished a PhD in electrical engineering at IIT Delhi in 1972. IIT is short for Indian Institute of Technology.



Dr. Vijay Bhatkar. CC BY-SA 4.0, via Wikimedia Commons.



He studied electrical engineering.

Source: IIT Delhi alumni, Bhatkar profile, item 1

Source: MSU Baroda alumni, Bhatkar profile, item 1

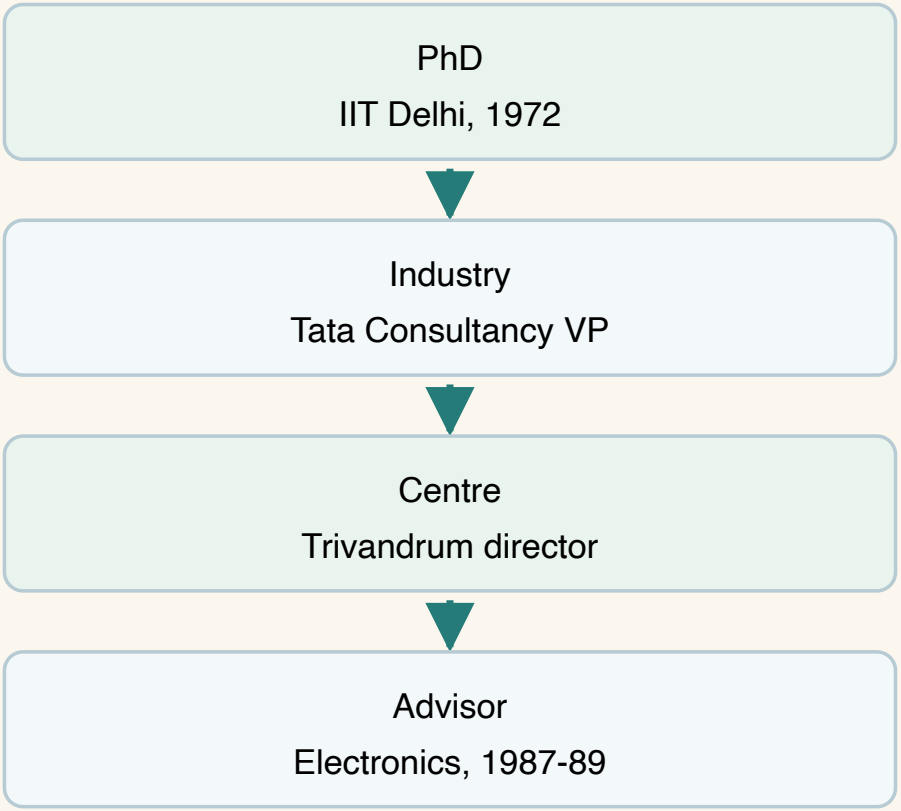
2. What jobs did he hold before C-DAC?

Before C-DAC, Bhatkar worked in industry and for the state. He was Vice-President at Tata Consultancy Services. He also ran an electronics research centre in Trivandrum. He was Executive Director of KELTRON, a state firm.

From 1987 to 1989 he advised the Department of Electronics. In that role he led four projects backed by the UN Development Programme.



The main building of IIT Delhi, where Bhatkar earned his PhD. Photographer: TheVyomanaut, via Wikimedia Commons. File page. Licence: CC BY-SA 4.0.



He worked in industry and government.

Source: IIT Delhi alumni, Bhatkar profile, item 2

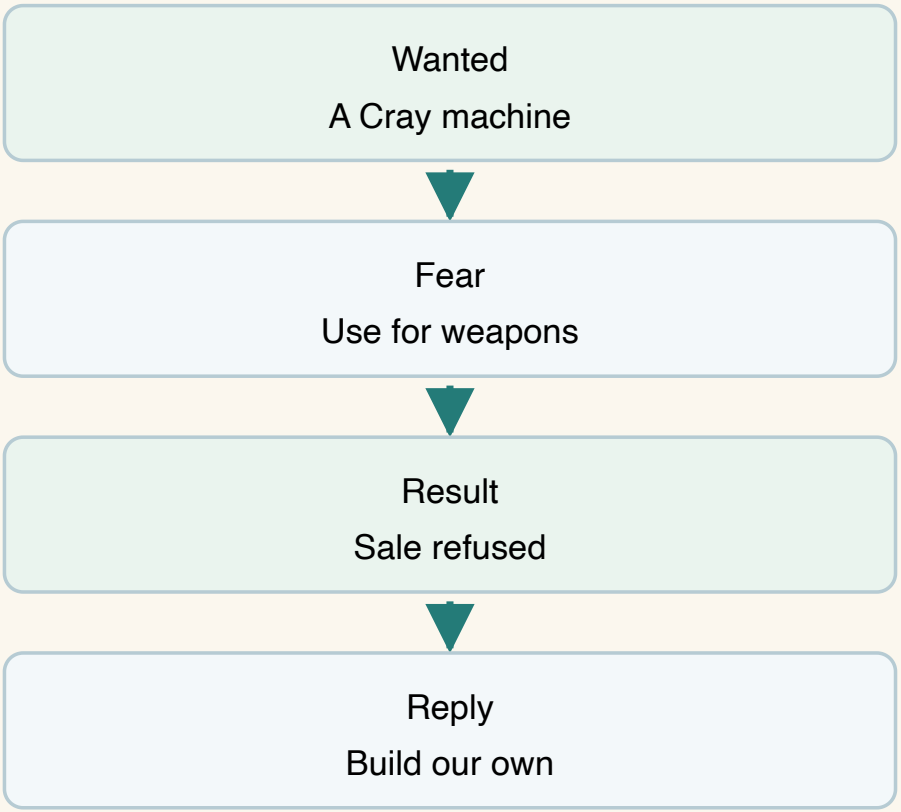
Why was C-DAC created, and what did it build?

C-DAC means the Centre for Development of Advanced Computing. It was set up to answer a technology denial.

3. What happened with the Cray supercomputer?

Supercomputers help to forecast weather. They also help to design satellites and weapons. The United States feared that India would use a Cray to design missiles and warplanes. So the sale did not go through.

One account says the Indian Institute of Science in Bangalore had ordered a Cray Y-MP for about half a billion rupees. Cray never received the export licence, and the order was cancelled. Other accounts name a different Cray model. So the exact machine is disputed.



The refusal led to a new centre.

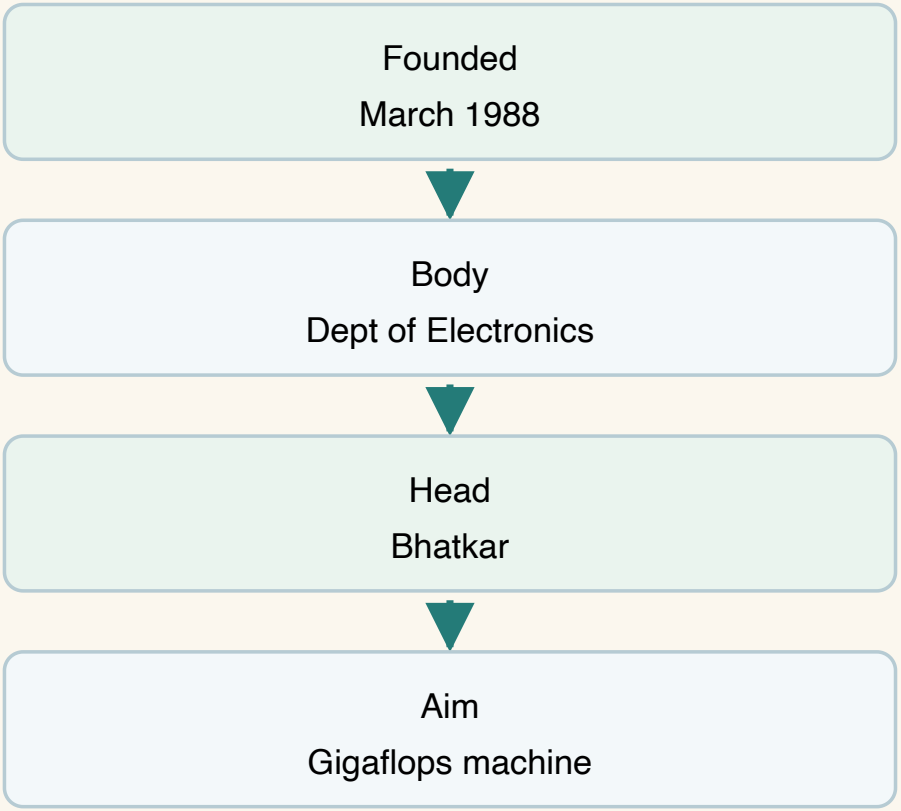
True or False: The United States refused to let India buy a Cray supercomputer.
Source: The Better India, India's first supercomputer, item 3

Source: HostKey, India was denied a Cray, item 3

4. When was C-DAC set up, and who ran it?

C-DAC was set up in March 1988 as a society of the Department of Electronics. Its mission was to build an Indian supercomputer. Bhatkar became its founding Executive Director.

The brief was hard. He had to build a machine of gigaflops class, in a country with a young computer industry. He had about three years, and the cost had to stay below the cancelled Cray deal. A gigaflop means one billion calculations each second.



The brief was hard.

True or False: C-DAC was set up in March 1988.
Source: The Better India, India's first supercomputer, item 4

Source: HostKey, India was denied a Cray, item 4

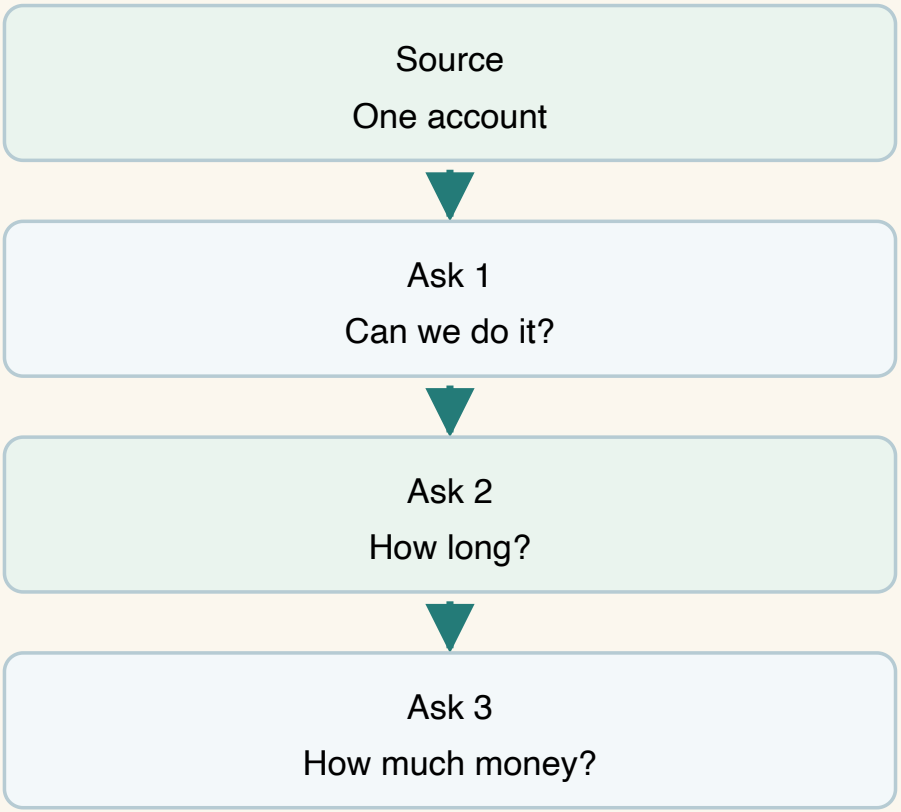
Source: Voice&Data, Dr Vijay Bhatkar, item 4

5. What did the Prime Minister say to him?

One account says Prime Minister Rajiv Gandhi picked Bhatkar for the job. It says Gandhi asked three questions: could India do it, how long, and at what cost. Only one source tells this story. Treat it as a retold

anecdote, not a fixed fact.

The same account says Bhatkar had seen a supercomputer only in a picture. He answered that India could do it in less time than an import would take.



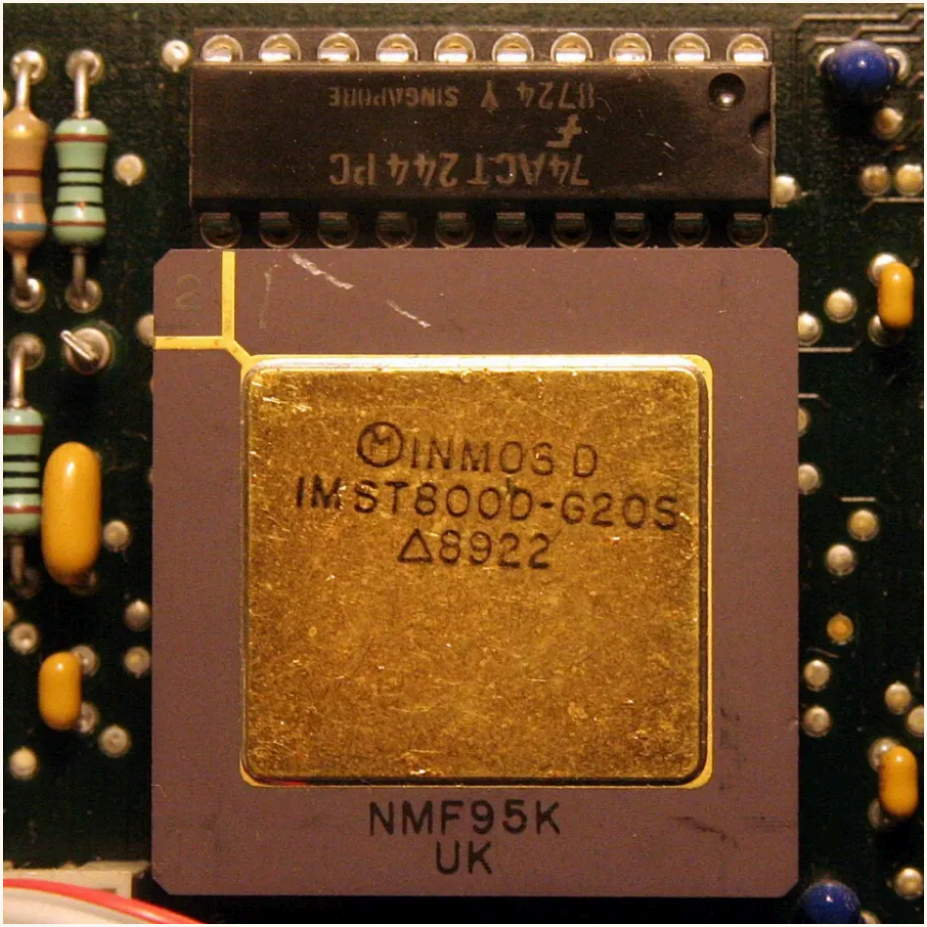
Treat it as a retold story.

Source: The Better India, India's first supercomputer, item 5

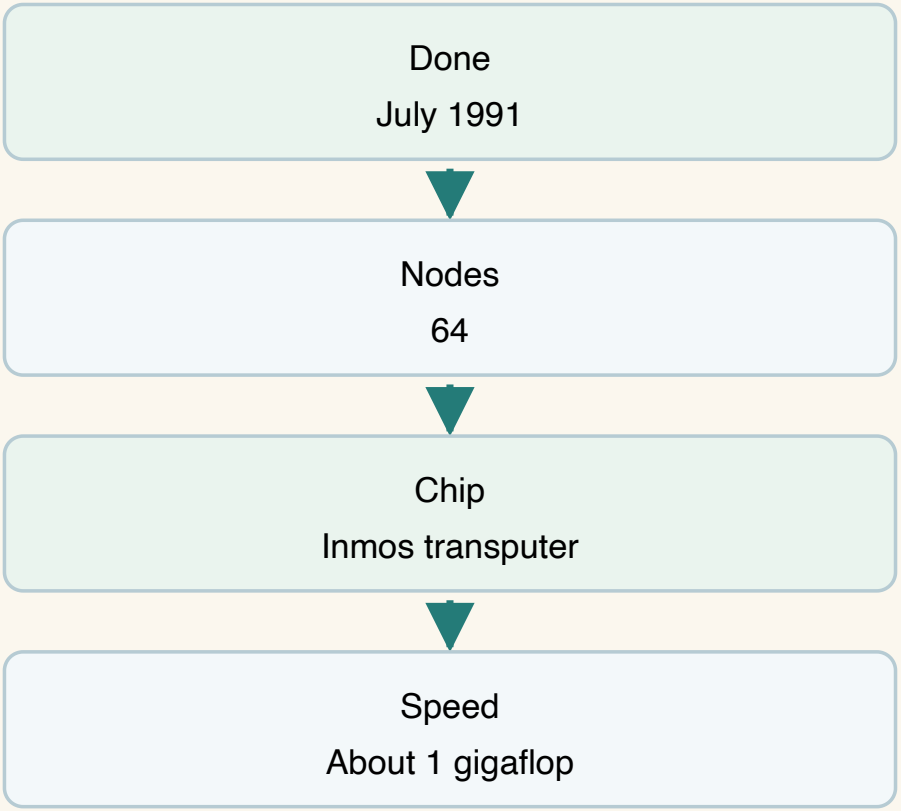
6. What is PARAM 8000, and how was it built?

PARAM 8000 was India's first gigaflops-class parallel computer. A parallel computer splits one job among many processors. They all work at the same time. C-DAC finished it in July 1991.

The basic machine had 64 nodes. Each node held an Inmos transputer, a British chip. So the design was Indian, but the key chips were bought abroad. C-DAC claimed a speed of about 1 gigaflop.



An Inmos T800 transputer, the kind of chip used in PARAM 8000. Photographer: Kuebi = Armin Kübelbeck, via Wikimedia Commons. File page. Licence: CC BY-SA 3.0.



The key chips came from abroad.

True or False: PARAM 8000 used only chips made in India.
Source: HostKey, India was denied a Cray, item 6

Source: C-DAC, HPC supercomputing systems, item 6

7. Why do sources disagree on its speed and year?

C-DAC's own HPC page lists PARAM 8000 as India's first giga-scale supercomputer in 1990. Other C-DAC and press pages say 1991. The sources do not explain the gap.

Some articles say it ran at 5 gigaflops and was the world’s second fastest. Other sources give about 1 gigaflop. Do not memorise the 5 figure. Remember the 1991 completion and the gigaflops class.

Year	Speed
1990 prototype	About 1 gigaflop
1991 full machine	5 in some posts

Learn the year 1991.

True or False: All sources agree that PARAM 8000 ran at 5 gigaflops.
Source: C-DAC, HPC supercomputing systems, item 7

Source: HostKey, India was denied a Cray, item 7

Source: The Better India, India's first supercomputer, item 7

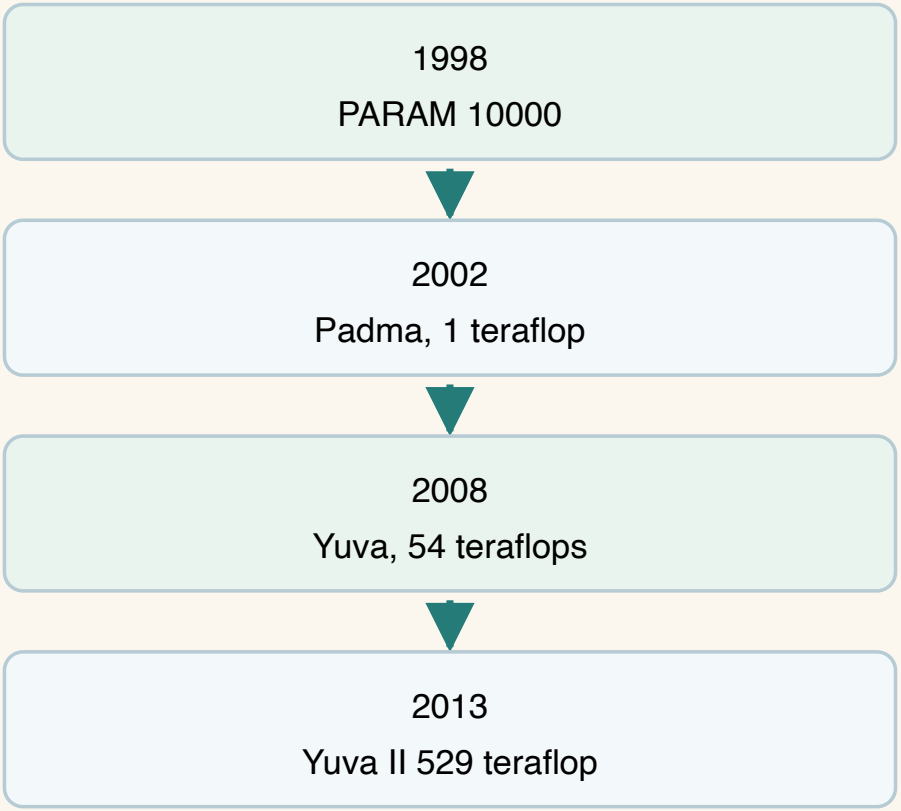
What came after PARAM 8000?

C-DAC kept building faster machines. It also worked on computing in Indian languages.

8. How did the PARAM series grow?

PARAM 10000 came in 1998 at 100 gigaflops. PARAM Padma followed in 2002 at one teraflop. A teraflop is one trillion calculations each second.

PARAM Padma was India’s first supercomputer on the Top500 list. It ranked 171 in June 2003. PARAM Yuva rose to 54 teraflops in 2008. PARAM Yuva II reached 529 teraflops in 2013.



Each machine was much faster.

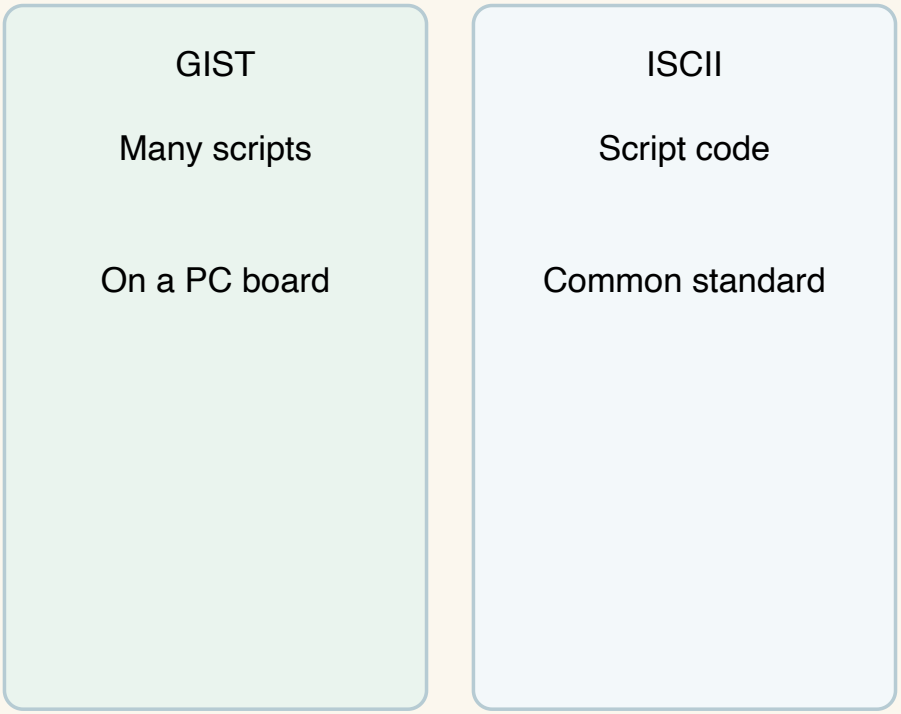
True or False: PARAM Padma ranked 171 on the Top500 list in June 2003.
Source: C-DAC, HPC supercomputing systems, item 8

Source: HostKey, India was denied a Cray, item 8

9. What did C-DAC do for Indian languages?

C-DAC began work on Indian-language computing almost at the same time as its first supercomputer. Its group was called GIST, short for Graphics and Intelligence based Script Technology. GIST made it possible to use many Indian scripts with English on ordinary computers.

An expansion board let a personal computer show most Indian scripts. C-DAC also worked on a common keyboard layout and on ISCII. ISCII is the Indian-script coding standard.



Indian scripts on ordinary PCs.

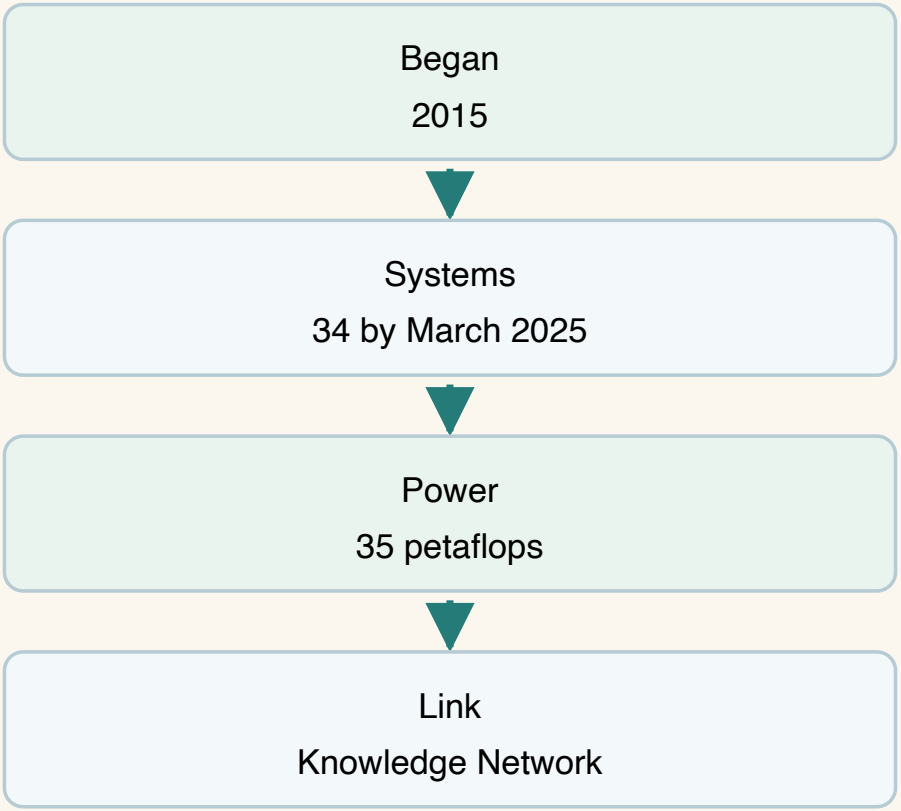
Source: HostKey, India was denied a Cray, item 9

Source: Voice&Data, Dr Vijay Bhatkar, item 9

10. What is the National Supercomputing Mission?

The National Supercomputing Mission (NSM) began in 2015. It places supercomputers in colleges and labs across India. Users reach them through the National Knowledge Network.

C-DAC says that by March 2025 the mission had set up 34 supercomputers. Together they gave 35 petaflops. A petaflop is one thousand teraflops. The Baroda alumni page says Bhatkar works on exascale computing.



The mission spreads supercomputers.

True or False: The National Supercomputing Mission began in 2015.
Source: C-DAC, National Supercomputing Mission, item 10

Source: MSU Baroda alumni, Bhatkar profile, item 10

What roles and honours did he receive?

Bhatkar held posts in universities and science bodies. He also won many awards.

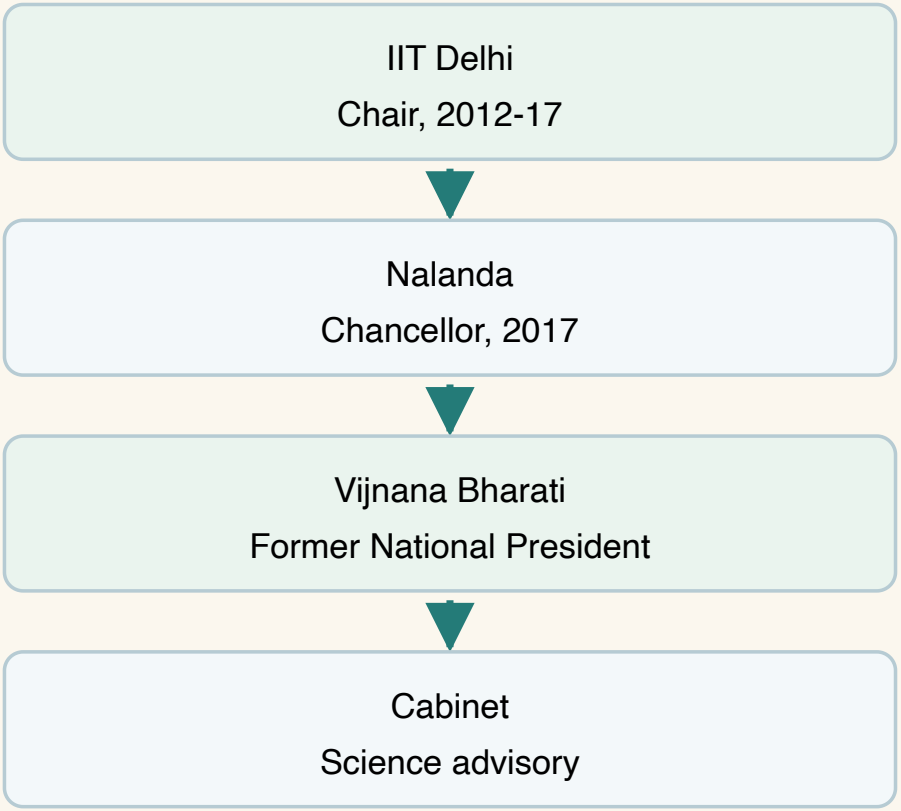
11. Which posts did he hold later?

Bhatkar chaired the Board of Governors of IIT Delhi from 2012 to 2017. In January 2017 he became Chancellor of Nalanda University. He was earlier National President of Vijnana Bharati. As of 27 October 2026, the movement lists him as Mentor. It is a science movement of scientists across India.

He founded C-DAC's Advanced Computing Training School. He also sat on the Scientific Advisory Committee to the Cabinet.



Ruins at Nalanda in Bihar. Photographer: Sumitsurai, via Wikimedia Commons. File page. Licence: CC BY-SA 4.0.



He held many public posts.

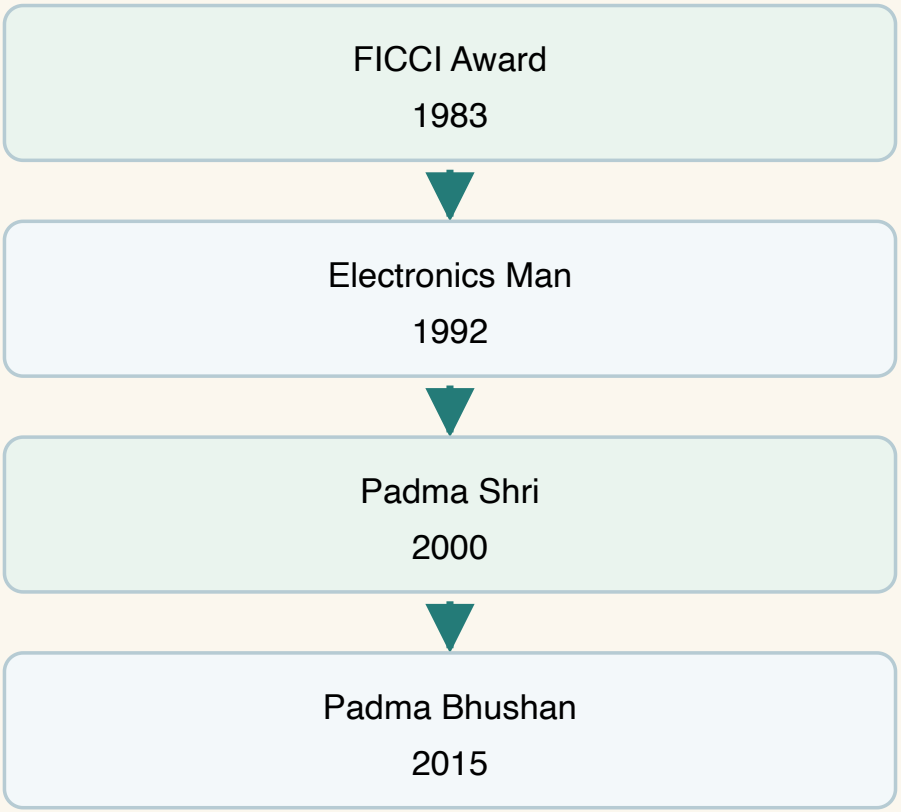
Source: MSU Baroda alumni, Bhatkar profile, item 11

Source: Voice&Data, Dr Vijay Bhatkar, item 11

12. Which honours did he win?

Bhatkar won the Padma Shri in 2000 and the Padma Bhushan in 2015. He also won the FICCI Award in 1983 and the Electronics Man of the Year award in 1992. IIT Delhi gave him its Distinguished Alumni Award in 1994.

He has written or edited several books. He has also written over 80 research papers. They cover supercomputing, artificial intelligence and computer control.



Two Padma honours.

True or False: Bhatkar received the Padma Bhushan in 2000.
Source: MSU Baroda alumni, Bhatkar profile, item 12

Source: IIT Delhi alumni, Bhatkar profile, item 12

Source: Voice&Data, Dr Vijay Bhatkar, item 12

How do exams test Bhatkar?

Questions on him test names, machines and years. Learn the pairs below.

13. Which pairs and traps should you remember?

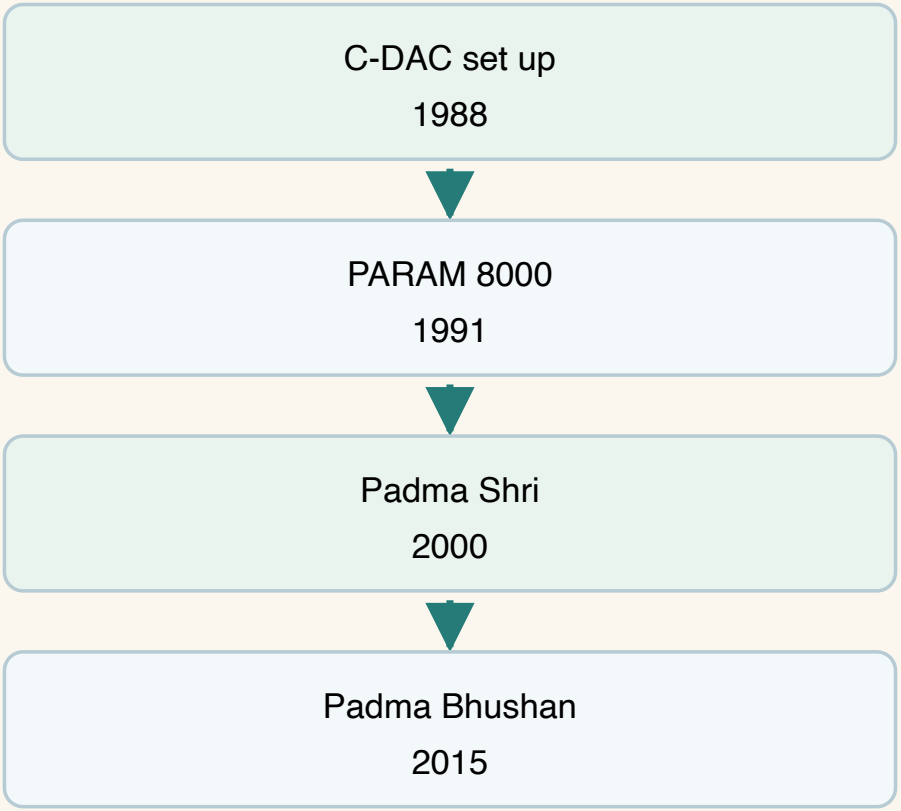
Match Bhatkar to C-DAC and the PARAM series. C-DAC was set up in 1988. PARAM 8000 was finished in July 1991.

PARAM 8000 and PARAM Padma are different machines. PARAM Padma, in 2002, was the first to reach a teraflop. Do not give that milestone to the 1991 machine.

C-DAC did not build the Cray. The Cray sale was refused, and C-DAC built PARAM instead. Padma Shri came in 2000. Padma Bhushan came in 2015.

PARAM 8000	PARAM Padma
Done July 1991	Year 2002
64 nodes	One teraflop

Do not mix the two machines.



Learn these four years.

Source: C-DAC, HPC supercomputing systems, item 13

Source: MSU Baroda alumni, Bhatkar profile, item 13

Source: The Better India, India's first supercomputer, item 13

Four questions to think through

Why did the Cray refusal lead to C-DAC?

India could not buy the machine it wanted. The government chose to build one at home. C-DAC was set up for that task. Bhatkar became its first head.

Why is the Rajiv Gandhi story only an anecdote?

Only one source tells it. No official page repeats the three questions. So it is a retold story. Learn it as a story, not as a fixed fact.

Why were the Inmos chips a limit on PARAM 8000?

India had nowhere to make such chips then. So C-DAC bought transputers from a British firm. The machine was Indian in design but not in every part. Later machines moved on from this.

How did GIST help ordinary computer users?

Most computers then worked only in English. GIST let a personal computer show Indian scripts. A common keyboard layout and ISCII helped too. This made computers useful in Indian languages.

Check your understanding

Your 7 quick checks Answered 0 of · Correct
This score resets when the page reloads.

Continue to the practice MCQs

✅ Test Yourself

Try practice questions on Bhatkar, C-DAC and the PARAM supercomputers.

Practice MCQs

1. C-DAC was founded in 1988 to build an indigenous supercomputer after which country denied India a Cray supercomputer?

A. United Kingdom

B. Soviet Union

C. United States

D. Japan

See answer ↓

2. PARAM 8000, India's first gigaflops-class parallel computer, was completed in which year?

A. 1988

B. 1991

C. 1998

D. 2002

See answer ↓

3. Which chips powered each node of PARAM 8000?

A. Sun UltraSPARC chips

B. Chips made in India

C. Inmos transputers

D. Cray vector processors

See answer ↓

4. Which PARAM machine was India's first supercomputer to enter the Top500 list?

A. PARAM Yuva

B. PARAM 10000

C. PARAM 8000

D. PARAM Padma

See answer ↓

5. Bhatkar received the Padma Shri and the Padma Bhushan in which years?

A. 2015 and 2000

B. 2000 and 2015

C. 1999 and 2015

D. 1992 and 2010

See answer ↓

6. What problem did the GIST group at C-DAC work on?

A. Guiding rockets

B. Using Indian scripts on ordinary computers

C. Securing bank payments

D. Forecasting monsoon rainfall

See answer ↓

7. The National Supercomputing Mission gives users access to its supercomputers through which network?

A. BharatNet

B. National Knowledge Network

C. Digital India Cloud

D. NICNET

See answer ↓

8. In which district of Maharashtra was Vijay Bhatkar born?

A. Akola

B. Nagpur

C. Pune

D. Thane

See answer ↓

Answer Key

1. **C.** The United States is the answer. It refused to let India buy a Cray supercomputer in the late 1980s. The fear was that the machine could help weapons work. India then set up C-DAC in March 1988 to build its own machine. The other countries listed were not the source of the refusal. Memory hook: the US said no, so C-DAC said yes. ↑ Q1
2. **B.** 1991 is the answer. C-DAC finished PARAM 8000 in July 1991. C-DAC itself was set up three years earlier, in 1988. PARAM 10000 came in 1998. PARAM Padma, the teraflop machine, came in 2002. Memory hook: 1988 start, 1991 finish. ↑ Q2
3. **C.** Inmos transputers are the answer. A transputer is a chip built for parallel computers. Inmos was a British firm. So the design was Indian, but the key chips were bought abroad. Cray machines used a different design. Memory hook: a British chip in an Indian machine. ↑ Q3
4. **D.** PARAM Padma is the answer. It reached one teraflop in 2002. It ranked 171 on the Top500 list in June 2003. PARAM 8000 and PARAM 10000 were earlier and slower. PARAM Yuva came later, in 2008. Memory hook: Padma was the first to rank. ↑ Q4
5. **B.** 2000 and 2015 are the answer. He received the Padma Shri in 2000. He received the Padma Bhushan in 2015. The Padma Bhushan ranks above the Padma Shri. Memory hook: Shri first, Bhushan fifteen years later. ↑ Q5
6. **B.** Using Indian scripts on ordinary computers is the answer. GIST stands for Graphics and Intelligence based Script Technology. An expansion board let a personal computer show most Indian scripts. C-DAC also worked on a common keyboard and on ISCII. The other options are not GIST work. Memory hook: GIST gave computers Indian scripts. ↑ Q6
7. **B.** The National Knowledge Network is the answer. It connects academic institutions and research labs at high speed. The mission began in 2015. By March 2025 it had deployed 34 supercomputers. Bhatkar is linked with work on exascale computing. Memory hook: NSM machines, NKN links. ↑ Q7
8. **A.** Akola is the answer. Bhatkar was born on 11 October 1946 at Muramba, in Akola district. He studied for his BE at Nagpur University. He earned his PhD at IIT Delhi in 1972. Nagpur is where he studied, not where he was born. Memory hook: Muramba is in Akola. ↑ Q8

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