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Pushpa Bhargava

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Pushpa Bhargava

Why did a scientist return a Padma Bhushan? Pushpa Mittra Bhargava built a leading biology institute in Hyderabad. He later opposed GM crop approvals and returned his Padma Bhushan in protest. He argued all his life that science needs reason and open debate.

1 Who was Pushpa Bhargava?

Pushpa Mittra Bhargava was an Indian biologist and institution builder. Many call him the father of modern biology in India.

Where did he come from?

- He was born in Ajmer on 22 February 1928.
- He earned his PhD in synthetic organic chemistry from Lucknow University.
- He died in Hyderabad on 1 August 2017, aged 89.
- He died at his home in Uppal, Hyderabad, after a brief illness.

What is the memory hook?

Think “Ajmer, Lucknow, Hyderabad”. His life ran from chemistry to biology.

> **Quick check 1.** Pushpa Bhargava was born in Ajmer. *(True or False?)* See answer ↓

Sources: thenewsminute.com; downtoearth.org.in; science.thewire.in

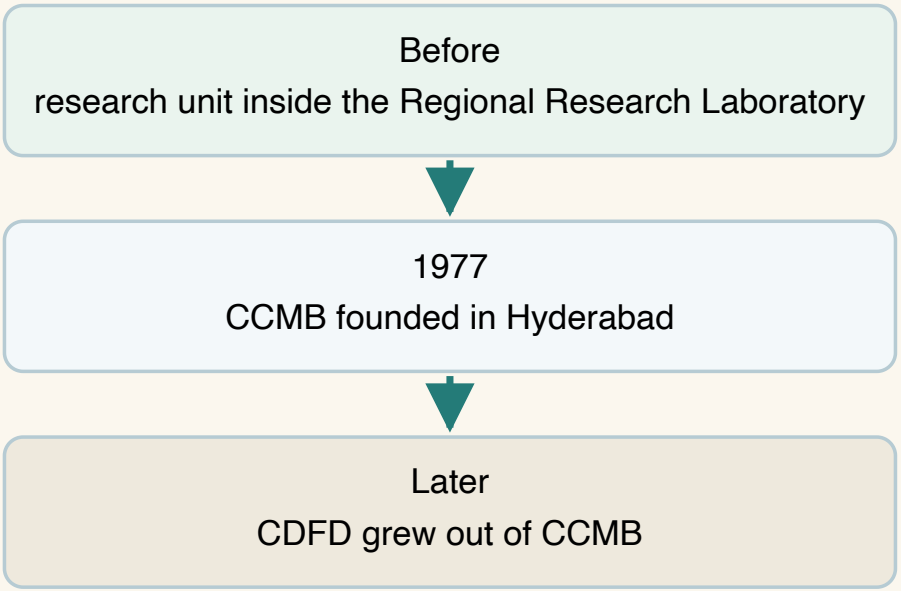
2 How did he build CCMB?

He founded the Centre for Cellular and Molecular Biology (CCMB) in Hyderabad in 1977. He was its founder-director.

How did CCMB begin?

- Bhargava ran a research unit inside the Regional Research Laboratory.
- That laboratory is now called IICT.
- He persuaded the government to make his unit a semi-autonomous centre in 1977. It was formed from the Biochemistry Division of the Regional Research Laboratory.
- That new centre was CCMB. It gained full national-laboratory status, with its own executive committee and scientific advisory committee, in 1981–82.
- CSIR is the Council of Scientific and Industrial Research.

What did CCMB become?



From a unit to a centre. Original explanatory diagram.

- He supervised the building of the CCMB campus in Hyderabad.
- The campus had a mural by M. F. Husain.
- It also had an artist-in-residence, A. Suryaprakash.
- CCMB led to the Centre for DNA Fingerprinting and Diagnostics (CDFD).
- It also helped make Hyderabad a biotechnology cluster.

What is the memory hook?

Think “1977, CCMB, Hyderabad”. One unit grew into a hub.

> **Quick check 2.** Bhargava founded CCMB in Hyderabad in 1977. *(True or False?)* See answer ↓

Sources: downtoearth.org.in; thenewsminute.com; science.thewire.in

3 How did he shape science policy?

He helped set up national science bodies and spoke up on public questions. He did this for about four decades.

What did he do?

- He was deeply involved in founding the Department of Biotechnology (DBT).
- He later criticised how it handled biotechnology regulation.
- He was a member of the Prime Minister's scientific advisory committee under Rajiv Gandhi.
- He opposed the 1977 Janata government's move to dismantle a "Method of Science" exhibition he had planned.
- He supported the victims of the Bhopal gas tragedy.
- He chaired the Sambhavana Trust, which runs a clinic for them.

What is the memory hook?

Think "build, advise, protest". He worked inside and outside government.

> **Quick check 3.** Bhargava founded the Department of Biotechnology on his own. *(True or False?)* See answer ↓

Sources: downtoearth.org.in; thenewsminute.com

4 Why did he oppose Bt brinjal?

He sat on the GEAC as the Supreme Court's nominee. He wanted reliable scientific data before any GM crop was released.

What was the GEAC?

- GEAC stands for Genetic Engineering Appraisal Committee.
- It is the Union government body that approves GM crops.
- The Supreme Court named Bhargava as its nominee on the committee.
- BioSpectrum calls him an independent observer.

What happened with Bt brinjal?



Approved, then paused. Original explanatory diagram.

- The GEAC approved Bt brinjal on 14 October 2009.
- Bhargava opposed the approval of GM crops in India.
- He wanted a pause until there was reliable scientific data.
- On 9 February 2010, Environment Minister Jairam Ramesh announced a moratorium on its release.
- A moratorium is a pause until further notice.
- Bhargava also called for a moratorium on GM crops in general.

What is the memory hook?

Think “approved 2009, paused 2010”. The pause followed a public fight.

> **Quick check 4.** The Supreme Court named Bhargava as its nominee on the GEAC. *(True or False?)* See answer ↓

Sources: science.thewire.in; biospectrumindia.com; thenewsminute.com

5 What honours did he receive and why did he return one?

He received the Padma Bhushan in 1986. In 2015 he announced that he would return it.

What happened in 2015?

- He announced he would return the award.
- He did so as a protest against intolerance.
- He was worried about India’s future.
- He was among 100 scientists who voiced concern.
- Their statement spoke of a climate of intolerance.
- It also said science and reason were being eroded.

What other post did he hold?

- He was Vice-Chairman of the National Knowledge Commission.
- The Commission was formed in 2005.
- He later quit after a difference of opinion with the government of the day.

What is the memory hook?

Think “Bhushan 1986, returned 2015”. Thirty years separate the two.

> **Quick check 5.** The government paused Bt brinjal in February 2010. *(True or False?)* See answer ↓

Sources: thenewsminute.com; science.thewire.in; downtoearth.org.in

6 What is scientific temper?

It is a duty of every citizen. Article 51A(h) asks citizens to develop it.

What does the Constitution say?

- Article 51A lists the Fundamental Duties.
- Clause (h) asks citizens “to develop the scientific temper, humanism and the spirit of inquiry and reform”.
- The 42nd Amendment of 1976 added these duties.
- They are duties, not rights.
- Courts do not enforce them directly.

Why does it link to Bhargava?

- Down To Earth calls him an advocate of scientific temper.
- He argued that reason should guide public life.

What is the memory hook?

Think “51A(h): duty, not right”. The (h) clause is the science one.

Quick check 6. Scientific temper is a Fundamental Right. *(True or False?)* See answer ↓

Sources: constitutionofindia.net; downtoearth.org.in

7 What are the common exam traps?

Four mix-ups come up again and again. Learn each pair.

What are the traps?

- **Right or duty?** Scientific temper is a Fundamental Duty, not a Fundamental Right.
- **Whose nominee?** The Supreme Court, not the government, named Bhargava to the GEAC.
- **Which body did he found?** He founded CCMB, not the Department of Biotechnology.
- **Approved or paused?** The GEAC approved Bt brinjal in 2009. The government paused it in 2010.

How do you remember them?

Think “duty, observer, CCMB, paused”. Match each word to its fact.

Quick check 7. Bhargava announced in 2015 that he would return his Padma Bhushan. *(True or False?)* See answer ↓

Sources: constitutionofindia.net; science.thewire.in

Sources: biospectrumindia.com; downtoearth.org.in

Practice MCQs

1. Pushpa Bhargava is widely known as the father of which field, in India?

A. Modern biology

B. Nuclear physics

C. Space science

D. Computer science

See answer ↓

2. Which centre did Pushpa Bhargava found in Hyderabad in 1977?

A. National Centre for Biological Sciences (NCBS)

B. Indian Institute of Chemical Technology (IICT)

C. Centre for DNA Fingerprinting and Diagnostics (CDFD)

D. Centre for Cellular and Molecular Biology (CCMB)

See answer ↓

3. On which government committee did the Supreme Court name Bhargava as its nominee?

A. Indian Council of Medical Research

B. Planning Commission

C. Genetic Engineering Appraisal Committee (GEAC)

D. University Grants Commission

See answer ↓

4. In which year did Bhargava announce that he would return his Padma Bhushan?

A. 1986

B. 2010

C. 2015

D. 2017

See answer ↓

5. Under which Article is developing scientific temper a Fundamental Duty?

A. Article 44

B. Article 51A(h)

C. Article 21

D. Article 19(1)(a)

See answer ↓

Answer Key

1. **A.** The answer is modern biology. Bhargava founded the Centre for Cellular and Molecular Biology (CCMB) in Hyderabad in 1977. Down To Earth calls him widely considered the father of modern biology in India. The other three fields belong to other scientists. Memory hook: Bhargava, biology, CCMB. ↑ Q1
2. **D.** The answer is the Centre for Cellular and Molecular Biology (CCMB). He turned a research unit into this separate CSIR laboratory. CDFD came later out of CCMB. NCBS is in Bangalore, and IICT is the laboratory his unit once sat in. Memory hook: 1977, CCMB. ↑ Q2
3. **C.** The answer is the Genetic Engineering Appraisal Committee (GEAC). It is the Union government body that approves GM crops. He opposed the approval of GM crops there. The other bodies are not linked to this role. Memory hook: Supreme Court's nominee on GEAC. ↑ Q3
4. **C.** The answer is 2015. He called it a protest against a climate of intolerance. He had received the award in 1986. He died in 2017. Memory hook: Bhushan 1986, returned 2015. ↑ Q4
5. **B.** The answer is Article 51A(h). It asks citizens to develop the scientific temper, humanism and the spirit of inquiry and reform. The 42nd Amendment of 1976 added the duties. Article 19(1)(a) and Article 21 are rights. Memory hook: 51A(h) is a duty, not a right. ↑ Q5

Quick-check answers

1. **True.** He was born there on 22 February 1928. ↑ 1
2. **True.** He was its founder-director. ↑ 2
3. **False.** it is false. He was deeply involved in founding it, but the sources do not say he founded it alone. ↑ 3
4. **True.** The GEAC approves GM crops. ↑ 4
5. **True.** Jairam Ramesh announced the moratorium on 9 February 2010. ↑ 5
6. **False.** it is false. It is a Fundamental Duty under Article 51A(h). ↑ 6
7. **True.** He had received it in 1986. ↑ 7

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