

VIDNYANVARI PRELIMS EXAM 2026



ARTICLE 1 (COURTESY: BBC NEWS) REMEMBERING DR. JAYANT NARLIKAR – THE SCIENTIST WHO CHALLENGED THE BIG BANG THEORY

1. Introduction

- Dr. Jayant Vishnu Narlikar (1938–2024) was one of India's most distinguished astrophysicists.
- Predicted concepts like **online learning** in a 1983 science fiction story.
- Challenged the widely accepted **Big Bang Theory** with a new cosmological model.
- Inspired generations through education, research, and rational thinking.
- His funeral saw attendance from schoolchildren, scientists, and even housekeeping staff, reflecting his broad impact.

2. Early Life & Family Background

- Born on **19 July 1938** in Kolhapur, Maharashtra.
- Came from an academic family:
 - Father: **Prof. Vishnu Narlikar**, mathematician.
 - Mother: **Sumati Narlikar**, Sanskrit scholar.
- Grew up in an environment of learning and scholarly discipline.

3. Education & Cambridge Years

- Completed higher studies at **Cambridge University**.
- Topped one of the most prestigious mathematics courses.
- Developed deep interest in **astrophysics and cosmology**.
- Most influential phase:

- Mentorship under **Sir Fred Hoyle**, world-famous astrophysicist.
- Collaboration that led to alternative cosmological theories.

4. The Hoyle–Narlikar Alternative to the Big Bang Theory

4.1 Contesting the Big Bang Theory

- Big Bang theory: universe began from a single explosive event ~13.8 billion years ago.
- Narlikar and Hoyle questioned this model.

4.2 The Quasi-Steady State Theory

- Proposed **continuous creation of matter** in an infinite, ever-existing universe.
- Universe **expands continuously but always appears the same** (Steady State).
- Provided a banking analogy to explain expansion with “compound interest.”

4.3 Scientific Value

- Even though the Big Bang became more widely accepted,
 - The mathematical tools from their theory remain important.
- Narlikar stayed committed to the model throughout his life.
- A sign outside his office said: **“The Big Bang is an exploding myth.”**

5. International Career

- Stayed in the UK until **1971**.
- Held prestigious positions:
 - Fellow at **King's College**.
 - Founding member of the **Institute of Theoretical Astronomy**.

- Became globally known in astrophysics circles.

6. Return to India (1972) & Contribution at TIFR

- Joined the **Tata Institute of Fundamental Research (TIFR)**.
- Led the **Theoretical Astrophysics Group** from 1972–1989.
- Mentored young scientists and expanded India's research capabilities.

7. Founding IUCAA (1988)

7.1 Vision

- Wanted a national-level institute for cutting-edge astrophysics.
- Aim: democratize access to astronomy education and research.

7.2 Establishment

- Co-founded the **Inter-University Centre for Astronomy & Astrophysics (IUCAA)** in Pune.
- Began from a small **100 sq ft room**, later grew into a global centre.

7.3 Roles

- Served as:
 - **Founder-Director (1988–2003)**
 - **Emeritus Professor (2003 onward)**

7.4 Science Outreach Programs

- Monthly public lectures
- Science camps
- Children's workshops

7.5 Testimony

- Science educator **Arvind Gupta** recalls:
 - Narlikar believed “*PhD scholars don't fall from the sky—you must catch them young.*”

8. Contributions Beyond Research

8.1 Science Fiction Writing

- Wrote stories rooted in scientific ideas.
- Notable works:
 - **Virus (2015)** – predicted a global pandemic.
 - **Waman Parat Na Ala (1986)** – explored artificial intelligence.

8.2 Influence on Indian researchers

- Encouraged young scientists to tackle tough problems.
- Example: Sanjeev Dhurandhar, involved in the detection of gravitational waves.

9. Rationalism & Fight Against Pseudoscience

- Known for challenging unscientific beliefs.
- In **2008**, co-authored a statistical critique of astrology.
- Philosophy: **“Always question what has no scientific basis.”**

10. Final Years & Lasting Legacy

- Continued replying to children's letters.
- Actively wrote blogs about science.
- Inspired students, educators, and scientists until his final days.
- Leaves behind a legacy of:
 - Scientific rigor
 - Rational thinking
 - Dedicated mentorship
 - Transformative contributions to Indian astronomy

ARTICLE 2 (Courtesy: Maharashtra Times)

DR. JAYANT VISHNU NARLIKAR: ASTRONOMER AND WRITER

1. Early Life and Family Background

- Full Name: **Dr. Jayant Vishnu Narlikar**
- Born: **19 July 1938**, Kolhapur, Maharashtra
- Father: **Wrangler Vishnu Vasudev Narlikar**
 - Renowned mathematician
 - Head, Department of Mathematics, Banaras Hindu University (BHU), Varanasi
- Mother: **Sumati Vishnu Narlikar**
 - Scholar of Sanskrit
- Childhood: Completed schooling in **Varanasi** in a scholarly and academic atmosphere

2. Higher Education and Academic Achievements

- Completed **B.Sc. (1957)** – secured **first rank**
- Went to **Cambridge University (UK)** for higher studies
- Obtained degrees:
 - **B.A.**
 - **M.A.**
 - **Ph.D.** in Astronomy & Mathematics
- Prestigious Awards Earned at Cambridge:
 - **Wrangler Title** (highest distinction in mathematics)
 - **Tyson Medal in Astronomy**
 - **Smith Prize**
 - Several other academic honors

3. Personal Life

- Married **Mangala Sadashiv Rajwade** (mathematician) in **1966**
- Children: Three daughters – **Geeta, Girija, and Leelavati**
- Wife's contributions:
 - Co-author of *Nabhat Haste Tare*
 - Author of *Pahilele Desh, Bhettleli Mansa*

4. Scientific Career in India

4.1 At TIFR (Tata Institute of Fundamental Research)

- Returned to India: **1972**
- Became **Head of the Astronomy Department**, TIFR, Mumbai
- Led significant research programs and mentored future scientists

4.2 Establishing IUCAA

- Appointed as **Director of IUCAA (Inter-University Centre for Astronomy & Astrophysics)** in Pune in **1988**
- Instrumental in developing IUCAA into a world-class astronomy center
- Promoted science outreach through magazines, lectures, and workshops

5. Contributions to Science Communication

- Regularly published **science essays** in various Marathi magazines
- His books have been **translated globally**
- Constant efforts to make astronomy **simple and accessible** to the general public
- First book "**Yakshanchi Denagi**" won the **Maharashtra Government Award**

6. Scientific Contributions and Research

6.1 Theoretical Work

- Along with **Sir Fred Hoyle**, developed the **Conformal Gravity Theory**
- Worked extensively on cosmology, astrophysics, and the nature of the universe

6.2 Outreach Focus

- Continuously worked to simplify astronomy for students and the public
- Used mass media, literature, and lectures to spread scientific awareness

7. Science Fiction Books (Marathi)

- Antaratil Bhasmasur
- Antaratil Sphot
- Abhayaranya
- Chala Jau Avkash Safarila
- Time Machinechi Kimaya
- Preshit
- Yakshanchi Denagi
- Yala Jeevan Aise Nav
- Vaman Parat Na Ala
- Virus

8. Other Science-Related Books

- Antara ani Vijnyan
- Aakashashi Jadle Nata
- Gantatal Gamti-Jamti
- Nabhat Hasare Tare
- Navya Sahasrakache Nave Vijnyan
- Yugayugachi Jugalbandi Ganit ani Vijyanachi
- Vishvachi Rachana
- Vijnyan ani Vijnyanik
- Vijnyangangechi Avakhal Valane
- Vijyanachi Garudzhp
- Vijyanache Rachayite
- Samagra Jayant Narlikar

- Suryacha Prakop

9. Autobiographical Works

- Char Nagarantale Maze Vishva
- Pahilele Desh, Bhetleleli Mansa
- Samagra Jayant Narlikar

10. Awards and Honors

- **1965** – Padma Bhushan
- **2004** – Padma Vibhushan
- **2010** – Maharashtra Bhushan
- **UNESCO Kalinga Prize (1996)** – For popularizing science
- Bhatnagar Award
- M. P. Birla Award
- Dr. Y. Nayudamma Memorial Award (2013)
- Sahitya Akademi Award (Delhi, 2014)
- Maharashtra Government Award for *Yakshanchi Denagi*
- Lifetime Achievement Award (2012)
- Rashtrabhushan Award
- Associate Member – Royal Astronomical Society (London)
- Fellow –
 - Indian National Science Academy
 - Third World Academy of Sciences
- Indira Gandhi Award – Indian National Science Academy

ARTICLE 3 (Courtesy: IUCAA)

DR. JAYANT VISHNU NARLIKAR: ASTRONOMER, COSMOLOGIST & WRITER

1. Early Life and Family Background

- Born: **19 July 1938**, Kolhapur, Maharashtra.
- Parents:

- **Vishnu Vasudeva Narlikar** – Professor & Head, Mathematics Department, Banaras Hindu University (BHU).
- **Sumati Narlikar** – Sanskrit scholar.
- Grew up in the educational environment of the **BHU campus**.
- Completed B.Sc. (1957) at BHU with an excellent academic record.

2. Higher Education at Cambridge

- Went to **Cambridge University** for advanced studies.
- Earned several degrees:
 - **B.A. (1960)**
 - **Ph.D. (1963)**
 - **M.A. (1964)**
 - **Sc.D. (1976)**
- Awards and distinctions at Cambridge:
 - **Senior Wrangler** (highest mathematics distinction)
 - **Tyson Medal** for Astronomy
 - **Smith's Prize (1962)**
 - **Adams Prize (1967)**

3. Academic Career in Cambridge (1963–1972)

- Fellow of **King's College, Cambridge** (1963–1972).
- Founder Staff Member, **Institute of Theoretical Astronomy** (1966–1972).
- Developed his major research foundations in **cosmology and astrophysics**.
- Major collaborator: **Sir Fred Hoyle**, renowned cosmologist.

4. Work in India (1972–1989)

- Returned to India in **1972**.

- Joined the **Tata Institute of Fundamental Research (TIFR)**, Mumbai.
- Headed the **Theoretical Astrophysics Group**.
- Under his leadership, the group gained **international reputation**.

5. Establishment of IUCAA (1988)

- University Grants Commission (UGC) invited him to establish a new astronomy center.
- Founded the **Inter-University Centre for Astronomy and Astrophysics (IUCAA)** in Pune, **1988**.
- Served as **Founder Director until 2003**.
- IUCAA gained a global reputation for excellence in research & teaching.
- Present position: **Emeritus Professor, IUCAA**.

6. Personal Life

- Married **Mangala Rajwade** in 1966 (Ph.D. in Mathematics).
- Children: **Geeta, Girija, and Leelavati** – all pursuing scientific research careers.

7. Research Contributions

- Known internationally for:
 - Models **alternative to the Big Bang Theory**.
 - Work on **gravity, Mach's Principle, quantum cosmology**.
 - Research on **quasars, black holes, and action-at-a-distance physics**.
- President, **Cosmology Commission**, International Astronomical Union (1994–1997).

8. Awards and Honours

- **Padma Bhushan (1965)** – at age 26.
- **Padma Vibhushan (2004).**
- **Maharashtra Bhushan (2011).**
- **Sahitya Akademi Award (2014)** – for autobiography.
- Other awards:
 - **Bhatnagar Award**
 - **M.P. Birla Award**
 - **Prix Janssen** (French Astronomical Society)

9. Contribution to Science

Communication

- Renowned science communicator through:
 - Books
 - Articles
 - Radio & TV programmes
- Wrote several **science fiction stories**.
- Recognized by **UNESCO Kalinga Award (1996)** for popularising science.

10. Space Biology Research

- Since **1999**, led a multi-institutional project to sample air at 41 km altitude.
- Findings (2001, 2005) indicated presence of **living cells and bacteria**.
- Supported the idea that **life may have originated from space** (panspermia hypothesis).
- Further missions planned.

ARTICLE 4 (Courtesy: IUCAA • Sahapedia)

JAYANT NARLIKAR – A PIONEER OF INDIAN COSMOLOGY

1. Introduction

- Renowned astrophysicist and academician.
- Founder-Director of **IUCAA**, Pune.
- Major contributor to cosmology and science education.

2. Early Life and Education

- Born: **19 July 1938**, to scholar parents:
 - Father: **Dr. Vishnu Vasudeva Narlikar** – Mathematician.
 - Mother: **Sumati Narlikar** – Sanskrit scholar.
- B.Sc. from BHU (1957).
- Cambridge University degrees:
 - **B.A. (1960)**
 - **Ph.D. (1963)**
 - **M.A. (1964)**
 - **Sc.D. (1976)**
- Achievements at Cambridge:
 - **Senior Wrangler**
 - **Tyson Medallist**
 - **Smith's Prize (1962)**
 - **Adams Prize (1967)**

3. Academic Career Abroad (1963–1972)

- Fellow, **King's College**, Cambridge.
- Founder member, **Institute of Theoretical Astronomy**.
- Strengthened collaborations with mentor **Fred Hoyle**.

4. Contribution to Indian Science

4.1 At TIFR

- Returned to India in **1972**.
- Led the **Theoretical Astrophysics Group** at TIFR.

4.2 Founding IUCAA

- Invited by UGC in **1988** to set up IUCAA, Pune.

- Director till **2003**, now **Emeritus Professor**.

5. Research Areas

- Theories of **gravity**
- **Mach's Principle**
- **Quantum cosmology**
- Work on **quasars** and **black holes**
- President, **Cosmology Commission**, IAU (1994–1997)

6. Awards and Recognitions

- **Padma Bhushan (1965)**
- **Padma Vibhushan (2004)**
- **Maharashtra Bhushan (2011)**
- **UNESCO Kalinga Award**
- **Shanti Swaroop Bhatnagar Award**
- **M.P. Birla Award**
- **Prix Janssen (French Astronomical Society)**
- Fellow of:
 - Indian National Science Academy
 - All three Indian science academies
 - Third World Academy of Sciences

7. Contribution to Science

Communication

- Prolific writer in English and Marathi.
- Wrote science fiction & encyclopaedic books (e.g., *Akashashi Jadle Nata*).
- Conducted radio and TV programmes for public education.
- Received **Sahitya Akademi (2014)** for autobiography *Chaar Nagarantale Maze Vishwa*.
