

• **COVID vaccine:** To bring this pandemic to an end, a large share of the world needs to be immune to the virus. The safest way to achieve this is with a vaccine. Vaccines are a technology that humanity has often relied on in the **past to bring down the death toll of infectious diseases.** 

#### What Are Covid-19 Vaccines?

- Types of Covid-19 Vaccines
- Vaccines can be made using many different technologies. The Covid-19 vaccines that are currently the most advanced are using four different approaches:
  - **>**viral vector
  - ➤ Nucleic Acid
  - > 'whole' virus
  - **>**protein subunit



- Vaccines train your immune system using a harmless form of the virus, SARS-CoV-2, which causes COVID-19.
- Vaccines stimulate an immune response without causing illness.
- Each type of vaccine for COVID-19 works differently to introduce antigens, which are unique features of the SARS-CoV-2 virus, to your body.
- The antigen triggers a specific immune response and this response builds immune memory, so your body can fight off SARS-CoV-2 in future.

#### Viral vector vaccines

- Viral vector-based vaccines differ from most conventional vaccines in that they don'tactually contain antigens, but rather use the body's own cells to produce them.
- They do this by using a modified virus (the vector) to deliver genetic code for antigen, in the case of COVID-19 spike proteins found on the surface of the virus, into human cells.
- By infecting cells and instructing them to make large amounts of antigen, which then trigger an immune response, the vaccine mimics what happens during natural infection with certain pathogens - especially viruses.
- This has the advantage of triggering a strong cellular immune response by T cells as well the production of antibodies by B cells.
- An example of a viral vector vaccine is the rVSV-ZEBOV vaccine against Ebola.

- They differ from nucleic acid vaccines in that they use a harmless virus
- Oxford-AstraZeneca is the first viral vector vaccine to be approved for Covid-19.

### **Nucleic Acid**

- Nucleic acid vaccines use genetic material from a disease-causing virus or bacterium (a pathogen) to stimulate an immune response against it.
- Depending on the vaccine, the genetic material could be DNA or RNA; in both casesit provides the instructions for making a specific protein from the pathogen, which the immune system will recognise as foreign (an antigen).
- Once inserted into host cells, this genetic material is read by the cell's own protein- making machinery and used to manufacture antigens, which then trigger an immune response
- This is a relatively new technology, so although DNA and RNA vaccines are being developed against
  various diseases, including HIV, Zika virus and COVID-19, so farnone of them have yet been
  approved for human use. Several DNA vaccines are licenced for animal use, including a horse vaccine
  against West Nile virus.
- Two RNA Covid-19 vaccines have been approved for use: Pfizer-BioNTech and Moderna. Both have reported high levels of vaccine efficacy around 95%.
- They are the first RNA vaccines ever to be approved for use against any disease.

#### 'Whole' virus vaccines

- These vaccines could be:
- Inactivated a version of the virus is inactivated by being exposed to heat, chemicals or radiation.
- Virus-like particle a version of the virus, closely resembling the real thing, iscreated artificially, however it doesn't contain any genetic material, so it's not infectious. These vaccines cannot cause the disease but will cause our bodies to produce an immune response which will protect against future infection.
- Some of the most advanced inactivated Covid-19 vaccines developed include Sinovac, Bharat Biotech and two by Sinopharm. Examples of existing inactivated vaccines include the whooping cough, rabies and hepatitis A vaccines.

#### **Protein subunit vaccines**

• A small piece of the virus' genetic code is inserted into another cell – perhaps a bacterial, yeast, mammalian or insect cell. The code contains instructions for this cell to start building the virus protein, for example the Covid-19 'spike' protein.

- Cells like this act as factories, building large quantities of the protein which is then extracted, purified and used as the active ingredient in the vaccine.
- When it is injected, our bodies learn to recognize the viral protein so that they can mount an immune response which protects against future infection.
- Some of the most advanced Covid-19 vaccines using this approach include **Novavax and Chinese Academy of Sciences.**
- An example of an existing protein subunit vaccine is for hepatitis B, which uses yeast cells to build the virus protein.

## **Leading Vaccines**

- There are currently more than 150 different COVID-19 vaccines under development.
- Developer How It Works Phase
- Pfizer-BioNTech mRNA
- Moderna mRNA
- Gamaleya Ad26, Ad5
- Oxford-AstraZeneca ChAdOx1
- CanSino Ad5
- Johnson & Johnson Ad26

- Vector Institute Protein
- Novavax Protein
- Sinopharm Inactivated
- Sinovac Inactivated
- Sinopharm-Wuhan Inactivated
- Bharat Biotech Inactivated

# **List of Vaccines**

#### Pfizer-Biontech

- VACCINE NAME: Comirnaty (also known as tozinameran or BNT162b2)
- EFFICACY: 91.3%
- STORAGE: Freezer storage only at -13°F to 5°F (-25°C to -15°C)
- On Nov. 9,2020 New York-based Pfizer and the German company BioNTech made history by announcing that their coronavirus vaccine had an efficacy rate of over 90 percent, far surpassing expectations.
- In March 2020, BioNTechpartnered with Pfizer to scale up the research, launching a clinical trial in May. They gave the vaccine the generic name tozinameran and the brand name Comirnaty

- While Comirnaty caused no serious side effects, it frequently caused short-lived fatigue, fever, and muscle aches.
- APPROVED FOR USE IN: Bahrain, Brazil, New Zealand, Saudi Arabia, Switzerland.
- EMERGENCY USE IN: Argentina, Australia, Botswana, Brunei, Canada, Chile, Colombia, Costa Rica, Ecuador, European Union, Greenland, Guatemala, Hong Kong, Iceland, Iraq, Israel, Japan, Jordan, Kuwait, Lebanon, Liechtenstein, Malaysia, Maldives, Mexico, Moldova, Monaco, Mongolia, Norway, North Macedonia, Oman, Panama, Peru, Philippines, Qatar, Serbia, Singapore, Sri Lanka, South Africa, South Korea, Tunisia, Turkey, Ukraine, United Arab Emirates, United Kingdom, United States, Uruguay.
- Emergency use validation from the World Health Organization. Recommended for emergency use by the Caribbean Regulatory System.

#### Moderna

- VACCINE NAME: mRNA-1273
- EFFICACY: More than 90%
- STORAGE: 30 days with refrigeration, 6 months at -4°F (-20°C)
- Like Pfizer and BioNTech, Moderna makes its vaccine from mRNA.
- Moderna has also pledged 500 million doses to COVAX, a global vaccine initiative, to supply vaccines to low-income countries.
- On April 29, Moderna announced they would produce 800 million to 1 billion doses in 2021 and planned to manufacture 3 billion doses in 2022.
- APPROVED FOR USE IN: Switzerland.
- EMERGENCY USE IN: Canada, European Union, Greenland, Guatemala, Honduras, Iceland, Israel, Japan, Kuwait, Moldova, Mongolia, Norway, Philippines, Qatar, Singapore, South Korea, Taiwan, Thailand, United Kingdom, United States, Vietnam.
- Emergency use validation from the World Health Organization.

### Sputnik V

- VACCINE NAME: Sputnik V (also known as Gam-Covid-Vac)
- EFFICACY: 91.6%
- STORAGE: Freezer storage. Developing an alternative formulation that can be refrigerated.

- The Gamaleya Research Institute produced the vaccine, initially called Gam-Covid-Vac, from a combination of two adenoviruses called Ad5 and Ad26. Both kinds have been tested as vaccines over a number of years.
- On Dec. 22, Belarus became the first country outside of Russia to register Sputnik V, and since then a number of other countries have followed suit.
- EMERGENCY USE IN: Albania, Algeria, Angola, Antigua and Barbuda, Argentina, Armenia, Azerbaijan, Bahrain, Bangladesh, Belarus, Bolivia, Bosnian Serb Republic, Cameroon, Congo Republic, Djibouti, Ecuador, Egypt, Honduras, Gabon, Ghana, Guatemala, Guinea, Guyana, Hungary, India, Iran, Iraq, Jordan, Kazakhstan, Kenya, Kyrgyzstan, Laos, Lebanon, Maldives, Mali, Mauritius, Mexico, Moldova, Mongolia, Montenegro, Morocco, Myanmar, Namibia, Nepal, Nicaragua (including Sputnik Light), North Macedonia, Pakistan, Palestinian Authority, Panama, Paraguay, Philippines, Russia (including Sputnik Light), San Marino, Serbia, Seychelles, Slovakia, Sri Lanka, St. Vincent and the Grenadines, Syria, Tunisia, Turkey, Turkmenistan, United Arab Emirates, Uzbekistan, Venezuela (including Sputnik Light), Vietnam, Zimbabwe.

#### Oxford-AstraZeneca

- VACCINE NAME: Vaxzevria (also known as AZD1222, or Covishield in India)
- EFFICACY: 76% in a U.S. study.
- STORAGE: Stable in refrigerator for at least 6 months
- A vaccine designed by the University of Oxford and produced by the British-Swedish company AstraZeneca has emerged as a key element in the effort to meet the global demand for Covid-19 vaccines.
- With an efficacy of 76 percent, the vaccine now known as Vaxzevria is being produced in vast quantities at a low price.
- Because it only needs to be refrigerated rather than frozen, it can be used far more widely than mRNA vaccines.
- The United Kingdom and Argentina were the first countries to give the vaccine emergency authorization, on Dec. 30, 2020.
- On Jan. 3, 2021, India approved a version called Covishield, made by the Serum Institute of India.
- Yet even after millions of people began receiving the vaccine, new concerns arose. In South Africa, a small trial failed to demonstrate that it protected people against thevariant B.1.351, which has become predominant in the country. On Feb. 7, South Africa halted plans for a rollout of 1 million doses of the AstraZeneca vaccine.
- In March 2021, another concern emerged. European medical regulators became concerned about a small number of cases of blood clots in younger people who received Vaxzevria.

- The European Medicines Agency concluded that the vaccine had a very rare side effect in which people suffered blood clots in large veins combined with low platelets.
- The regulators emphasized that the vaccine is effective and the benefits it provided outweighed the small risk of its side effects.
- In response some countries chose to minimize the risk by restricting the vaccine to older people. In May, Norway permanently removed Vaxzevria from their vaccination program.
- APPROVED FOR USE IN: Brazil.
- STOPPED USE IN: **Denmark, Norway.**
- EMERGENCY USE IN: Algeria, Angola, Antigua, Argentina, Australia, Bahamas, Bahrain, Bangladesh, Barbados, Bhutan, Botswana, Brazil, Brunei, Cambodia, Canada, Chile, Colombia, Costa Rica, Cyprus, Dominican Republic, Ecuador, Egypt, El Salvador, Ethiopia, European Union, Fiji, Georgia, Ghana, Greenland, Guatemala, Haiti, Honduras, Hungary, Iceland, India, Indonesia, Iran, Iraq, Jamaica, Japan, Kenya, Kuwait, Liechtenstein, Malaysia, Maldives, Mexico, Moldova, Mongolia, Morocco, Namibia, Nepal, Nigeria, North Macedonia, Norway, Pakistan, Papua New Guinea, Peru, Philippines, Rwanda, Saudi Arabia, Seychelles, Sierra Leone, Sri Lanka, Solomon Islands, South Africa, South Korea, Sudan, Taiwan, Thailand, Uganda, Ukraine, United Kingdom, Vietnam, Zambia.
- Emergency use validation from the World Health Organization. Endorsed by the Africa Regulatory Taskforce. Recommended for emergency use by the Caribbean Regulatory System.

#### **CanSinoBIO**

- VACCINE NAME: Convidecia (also known as Ad5-nCoV)
- EFFICACY: 65.28%
- STORAGE: Refrigerated
- The Chinese company CanSino Biologics developed Convidecia in partnership with the Institute of Biology at the country's Academy of Military Medical Sciences.
- The one-shot vaccine is based on an adenovirus called Ad5. On Feb. 25, 2021, China announced the approval of the CanSino vaccine for general use.
- APPROVED FOR USE IN: China. **EMERGENCY USE IN: Chile, Hungary, Mexico, Moldova, Pakistan.**

## Johnson & Johnson

- VACCINE NAME: Ad26.COV2.S
- EFFICACY: 72% in United States, 68% in Brazil and 64% in South Africa

- STORAGE: Up to two years frozen at -4° F (-20° C), and up to three months refrigerated at 36-46° F (2-8° C).
- Bahrain became the first country to authorize the vaccine for emergency use on Feb.
- Two days later, the United States followed suit.
- South Africa dropped plans to use AstraZeneca's vaccine and began using Johnson & Johnson's instead.
- C.D.C. researchers reported 15 cases of the unusual clots in nearly 8 million people who received the vaccine. The government decided to lift the pause and add a warning to the vaccine that younger women may run a slight risk of the severe side effect.
- STOPPED USE IN: Denmark, Finland.
- EMERGENCY USE IN: Bahrain, Brazil, Canada, Colombia, European Union, Greenland, Iceland, Liechtenstein, Moldova, Norway, Philippines, South Africa, South Korea, Switzerland, Thailand, United States, Zambia. Emergency use validation from the WorldHealth Organization. Endorsed by the Africa Regulatory Taskforce.

#### **BEKTOP**

- VACCINE NAME: EpiVacCorona
- EFFICACY: Unknown
- STORAGE: Stable in refrigerator for up to two years
- On Aug. 26, 2020, the Vector Institute, a Russian biological research center, registered a Phase 1/2 trial for a coronavirus vaccine they call EpiVacCorona.
- The vaccine contains small portions of viral proteins, known as peptides.
- Less than two months later, on Oct. 14, 2020, Vladimir Putin announced that Russia has granted regulatory approval to the vaccine, making it the second one to receive that designation after the Gamaleya Institute's Sputnik V vaccine.
- APPROVED FOR USE IN: Turkmenistan.
- EARLY USE IN: Russia.
- ZFSW-Chinese Academy of Medical Science
- VACCINE NAME: ZF2001
- EFFICACY: Unknown

- The Chinese company Anhui ZhifeiLongcom and the Institute of Medical Biology at the Chinese Academy of Medical Sciences partnered to make a vaccine.
- Their candidate is composed of an adjuvant, along with a section of the spike protein called the receptorbinding domain.
- EMERGENCY USE IN: China, Uzbekistan.

# Sinopharm and Beijing Institute

- VACCINE NAME: BBIBP-CorV
- EFFICACY: 78.1%
- The Beijing Institute of Biological Products created an inactivated coronavirus vaccine that was put into clinical trials by the state-owned Chinese company Sinopharm.
- On Dec. 30, 2020, Sinopharm announced that the vaccine had an efficacy of 79.34percent, leading the Chinese government to give its approval.
- On May 7, 2021, the World Health Organization put forward a similar efficacy estimate of 78.1 percent and gave the vaccine emergency use authorization.
- On Sept. 14, 2020, the U.A.E. gave emergency approval for Sinopharm's vaccine to use on health care workers, and soon government officials and others were also receiving it.
- Less than two months later, on Dec. 9, 2020, the U.A.E. gave full approval to BBIBP- CorV, announcing it had an efficacy rate of 86 percent. Since then, a number of countries in the Near East have authorized it; on Jan. 29, 2021
- Hungary authorized BBIBp-CorV, making the country the first European nation to use a Chinese vaccine
- APPROVED FOR USE IN: Bahrain, China, United Arab Emirates.
- EMERGENCY USE IN: Angola, Argentina, Bangladesh, Brunei, Cambodia, Egypt, Gabon, Guyana, Hungary, Indonesia, Iran, Iraq, Jordan, Lebanon, Maldives, Moldova, Mongolia, Morocco, Namibia, Nepal, North Macedonia, Pakistan, Peru, Sierra Leone, Sri Lanka, Venezuela, Zimbabwe. Emergency use validation from the World Health Organization.

#### Sinovac

- VACCINE NAME: CoronaVac (formerly PiCoVacc)
- EFFICACY: 50.65% in Brazil trial, 91.25% in Turkey trial
- STORAGE: Refrigerated

• Sinovac Biotech, a private Chinese company, developed an inactivated vaccine called CoronaVac in early

2020.

• In early 2021, trials in Brazil and Turkey showed that it could protect against Covid-19, but they delivered

strikingly different results — in part because they designed the trials differently.

Sinovac announced on Feb. 6 that China had given CoronaVac conditional approval.

Other countries are also beginning to use the vaccine.

• Sinovac has struck deals with at least 11 countries and regions to supply them with SinoVac.

APPROVED FOR USE IN: China.

• EMERGENCY USE IN: Azerbaijan, Brazil, Cambodia, Chile, Colombia, Dominican Republic, Ecuador, Egypt, Hong Kong, Indonesia, Laos, Malaysia, Mexico, Moldova, Pakistan, Panama, Philippines,

Thailand, Tunisia, Turkey, Ukraine, Uruguay, Zimbabwe.

Sinopharm-Wuhan Institute

Along with their Beijing Institute vaccine, Sinopharm also tested an inactivated virus vaccine developed

by the Wuhan Institute of Biological Products.

• The Phase 1/2 trial showed that the vaccine produced antibodies in volunteers, some of whom

experienced fevers and other side effects.

• Sinopharm said the vaccine's efficacy was 72.51 percent. The Wuhan version of the vaccine is undergoing

Phase 3 trials in several countries.

• In December 2020, Peru briefly paused their Sinopharm trial to investigate neurological problems that

one volunteer experienced but determined that it had nothing to do with the vaccines.

• On Feb. 25, 2021, China announced the approval of the Wuhan vaccine for general use.

• The efficacy determined from the Phase 3 trials has yet to be published.

APPROVED FOR USE IN: China.

LIMITED USE IN: United Arab Emirates.

**Bharat Biotech-ICMR** 

VACCINE NAME: Covaxin (also known as BBV152 A, B, C)

EFFICACY: 78%

STORAGE: At least a week at room temperature

- In collaboration with the Indian Council of Medical Research and the National Institute of Virology, the Indian company Bharat Biotech designed Covaxin, a vaccine based on an inactivated form of the coronavirus.
- Last June 2020, Covaxin became the first coronavirus vaccine created in India to go into clinical trials.
- On Jan. 3, 2021, the Indian government granted Covaxin emergency authorization. The authorization came despite the fact that Bharat had yet to release Phase 3 data showing the vaccine is safe and effective.
- Two months later, the company began releasing a series of reports about the trial. As of April 21, the vaccine had an estimated efficacy of 78 percent against mild, moderate, and severe Covid-19.
- For severe Covid-19 in particular, Covaxin had 100 percent efficacy. The company also found that the vaccine had an efficacy of 70 percent against Covid-19 without symptoms, suggesting that Covaxin can block the spread of the virus.
- EMERGENCY USE IN: Botswana, Guatemala, Guyana, India, Iran, Mauritius, Mexico, Nepal, Nicaragua, Paraguay, Philippines, Zimbabwe.

## **QazVac Vaccine**

- The central Asian nation of Kazakhstan began research on a vaccine made from inactivated coronaviruses over the summer.
- On August 28, 2020, their Research Institute for Biological Safety Problems registered a Phase 1 trial on the vaccine.
- Kazakhstan began administering its vaccine to the public in late April.
- EARLY USE IN: Kazakhstan.

# Shenzhen Kangtai Vaccine

- **Shenzhen Kangtai Biological Products is a Chinese company** that makes vaccines for diseases such as hepatitis B and measles.
- In August 2020, AstraZeneca reached an agreement with Shenzhen to supply China with their adenovirus vaccine, despite the reports of corruption and scandals that have the company.
- In February 2021 the company ran a Phase 2 trial, followed by a Phase 3 trial launched in May. In that same month, the company announced that the Chinese government had given it emergency use approval.
- EMERGENCY USE IN: China.

## **Chumakovcenter Vaccine**

- The **ChumakovCenter at the Russian Academy of Sciences** developed an inactivated coronavirus vaccine called CoviVac.
- On Feb. 20, 2021, Russia approved the vaccine for domestic use, despite the fact that the ChumakovCenter had yet to start a Phase 3 trial.
- By the end of the year, Russia planned on producing 20 million doses.
- EARLY USE IN: Russia.
- Side Effects Of Covid-19 Vaccine
- As shown in the results of clinical trials, more serious or long-lasting side effects are possible.
- Vaccines are continually monitored to detect adverse events.
- Common side effects of COVID-19 vaccines
- Less common side effects
- Like any vaccine, COVID-19 vaccines can cause side effects, most of which are mild or moderate and go away within a few days on their own.
- Typical side effects include pain at the injection site, fever, fatigue, headache, muscle pain, chills and diarrhoea
- The chances of any of these side effects occurring after vaccination differ according to the specific vaccine.
- Upon receiving the vaccine, a person should be requested to stay for 15–30 minutes at the vaccination site so health workers are available in case of any immediate reactions.
- Less common side effects reported for some COVID-19 vaccines have included severe allergic reactions such as anaphylaxis; however, this reaction is extremely rare.

# **Editorial**

- The Union government is in direct talks with global vaccine manufacturers to facilitate regulatory clearance and procurement of doses, the health ministry said on Monday. This follows the stand taken by foreign vaccine makers such as Moderna and Pfizer that they would only deal with the Centre and not individual states.
- The Centre had last month announced a "liberalised" vaccination policy with effect from May 1.
- The revised policy made public on April 19, empowered states to procure vaccine doses directly from manufacturers. The move had prompted many states to float global tenders to procurevaccines from

international firms. But, on Sunday Punjab said US-based vaccine maker Moderna had declined its request for direct supply of doses and that the company had indicated it would only deal with the government of India.

- "We are coordinating at the central level with vaccine makers. The order books of both Pfizer and Moderna are full most of the time. Depending on the surplus available with them, they will get back to the government of India," Lav Agarwal, joint secretary, health ministry, said during a press conference on Covid-19 situation.
- Based on how much they can supply to India, the government would ensure and facilitate supplies of vaccine at state level, Agarwal said.
- Clarifying on why only 50 million vaccines was being supplied by end of May when the total production of the two vaccines (Covishield and Covaxin) is around 80 million doses per month, Agarwal said that the production was not immediately available for supply. "There are processes involved in ensuring its availability. The immediate production today takes seven to nine days to become available," Agarwal said.
- A stability and sterility study, which can take up to a week, is done after production in the factory premises. Thereafter, vaccines are supplied in batches and sent first to the central drug laboratory in Kasauli for testing. Vaccines are then sent out through the supply chain network.
- "We have to strengthen our logistics and inventory management... States are told in advance about the free doses that will be made available to them in advance so that they can plan on field level," the joint secretary added.
- On the issue of talks with states and the Centre, another American vaccine maker Pfizer holds a view similar to Moderna. A Pfizer spokesperson told Business Standard, "As we have maintained all along, during this pandemic phase, across the world Pfizer will supply the Covid- 19 vaccine only to central governments and supra-national organisations for deployment innational immunisation programmes. The allocation of doses and implementation plan within a country is a decision for local governments based on relevant health authority guidance."
- The company added that it remained committed to continuing its engagement with the government of India towards making the Pfizer-BioNTech vaccine available for use nationally.

### **TEST YOURSELF**

# Q.1 Which of the following Mission was launched in order to facilitate the development of approximately 5-6 COVID-19 vaccine candidates?

- A. Mission Covid Security
- B. Mission Covid Suraksha: ANSWER
- C. Mission CoviDefeat
- D. None of the above

# Q.2 Consider the given statements & state which of gh following is/are incorrect in the reference to the Delta Plus Variant in India?

- A. Delta plus (B.1.617.2.1/ (AY.1) is a new variant of the SARS-CoV-2 coronavirus formed due to a mutation in the Delta strain of the virus.
- B. It is technically the next generation of SARS-COV-2.
- **C.** This mutant of Delta known as 'Delta plus Variant' was first detected in Africa & South America especially Brazil in March 2021: **ANSWER**
- D. None of the following

# Q.3 The B.1.617.1 and B.1.617.2 COVID-19 variants that were first identified in India, have been named as \_\_\_\_\_\_ respectively by the World Health Organisation?

- A. SARS-CoV-2 Alpha variant & Delta Variant
- B. Zeta & Lambda Variant
- C. Lambda & SARS-CoV-2 Alpha variant
- D. Kappa & Delta Variant: ANSWER

# Q.4 Which of the following vaccines of the world have been found the most effective against the Delta Variant of SARS-COV-2 in the recent study?

- A. Covishield & Covaxin
- B. Sputnik Vaccine: ANSWER
- C. SinoPharm vaccine
- D. None of the above

# Q.5 Consider the given statements & state which of the following is/are correct in the reference to the above mentioned passage?

- I. Variants of a virus have one or more mutations that differentiate it from the other variants that are in circulation. While most mutations are deleterious for the virus, some make it easier for the virus to survive.
- II. Indian SARS-CoV-2 Consortium on Genomics (INSACOG) is a multi-laboratory, multi-agency, pan-India network to monitor genomic variations in the SARS-CoV-2.
  - A. Only I follows
  - B. Only II follows
  - C. Both I & II follows: ANSWER
  - D. None of the above



# **Meet Our Mentors**

We strongly endorse and believe in the fact that our faculty is our asset and one of the strong pillars of Success Mantra. This is the reason, we cherry-pick our faculties in order to fulfil the expectations of the students. Each of our faculty is the master of their subject, thus ensuring the best results across the industry.



# Mahesh H Singh

Faculty - Constitutional Law (Polity)

I am a commerce graduate and belong to Mumbai. I have been teaching constitution and PSIR to Law and CSE aspirants for the last 4 years.

My role at Success Mantra is to mentor students to understand the constitution through flow charts and fine examples. I believe in 3 C's (i.e. CONTENT, CLARITY of topics and CONNECTION between students and teacher) are the key elements of effective teaching, what I ensure at success mantra.



## Shivendra Pratik

Faculty - Logical Reasoning

I'm a Post Graduate Diploma in Management and a Gold Medalist in Finance and Banking. I have a comprehensive experience around 8 years in the Corporate & Education industry. For the last 6 years, I have been teaching Logical Reasoning to various competitive entrance exam aspirants majorly CLAT, AILET, DU LLB, HM, BBA, Banking, UPSC, DSSSB etc.



### Richa Jha

Faculty - Legal Aptitude

I am Advocate Richa Jha. I'm LLB, LLM from Law Faculty, University of Delhi. Law, as a subject, can be taught with the help of legal theories, their practices and applications which can be substantiated with the help of case studies.

I sincerely believe in imparting a legal education which a candidate can relate to his exam and could become a means to achieve success.



### **Ankit Jha**

Faculty - General Knowledge | Service **Aptitude** 

I'm a hospitality professional and a qualified manager. I've diversified experience of more than six years in different industries. I graduated from the prestigious IHM Pusa Delhi.

I mentor the aspirants of Success Mantra as a Faculty for General Awareness & Service Aptitude. I'm dedicated towards providing the best content in terms of quality & relevancy and always eager assist the students.



# Vipin Sharma

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I'm an MBA, LL.B. and B.Com (AMU). I have been in association with Success Mantra since 2013. Extensive knowledge of arithmatic mathematics, algebra, geometry, statistics and other areas of mathematics allows me to confidently explain concepts and processes to my students. My lesson plans engage students and help them feel confident in their mathematical abilities.



# **Deepak Chauchan**

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I'm Deepak Chauhan. I'm PG in English. I've more than fifteen years of Experience including teaching experience of eight years. I'm committed to creating a classroom which is stimulating and highly motivated.

I'm highly professional and dedicated towards my work. I've created a huge library of competitive english which I share with my students as and when required. I've passion for English Language and my ultimate goal is to help my students to achieve their goal in life.



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