

# General Knowledge Today



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## Indian Culture-6: Indian Architecture- Medieval and Modern

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## Model Questions

### Mains Model Questions

1. Discuss the salient Features of Indo-Islamic Architecture. What new elements were added to the Indian architecture by the Muslims?
2. Discuss the reasons and advantages of introducing the Double Dome feature in Indo-Islamic architecture.
3. What do you understand by “Indian functionalism”. Discuss with examples.
4. What was the role of mason’s guilds in the development of provincial architecture in Gujarat. Discuss.
5. While keeping monuments at Mandu in foci, throw light on the rainwater harvesting system. Can Mandu’s antique water system be restored and revived? Can it help to solve the drinking water problem in the surrounding areas? Discuss.
6. Discuss the salient features of the Mughal Architecture. How it was different from the earlier architecture of Delhi Sultanate?
7. One of the greatest early deeds of Mughals is that they brought the Persian Charbagh style to India. Discuss with giving examples of monuments in India which were built in Charbagh style.  
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8. Akbar’s Tomb at Sikandara is the best example of Akbar’s style. Elucidate.
9. Discuss the Importance of Chhatri in Mughal Architecture.
10. What are the main features Palladian Style and Victorian Gothic Style? Give some examples of monuments built in these styles in India.
11. Critically comment on the architecture of Le Corbusier with emphasis on the so called “International Style” in architecture.
12. Why Laurie Baker is known as the “conscience keeper of Indian architecture” and “Gandhi of Indian architecture”? Evaluate his architectural style.



### Indo-Islamic architecture: Salient Features

Islam spread towards India and Europe in the 7<sup>th</sup> and 8<sup>th</sup> century. In our country, Islam did not come from the north as is commonly believed. It came through Arab traders to the Malabar region in Kerala, and Muslims flourished as a trading community there. The Moplah community of Kerala traces its origin to the Arabs.

#### Cheraman Perumal

The first mosque in India was built at Kodungalloor by the Chera King Cheraman Perumal in A.D. 629, within the lifetime of the Mohammad, the Prophet. This is one of the oldest mosques in the world.

#### Salient Features of Indo-Islamic Architecture

Islam came along with the migration of Muslim merchants, traders, the saints and finally the conquest of Muslim rulers. The early Islamic architectural activity was visible as back as 8<sup>th</sup> century in some parts such as Sindh and Gujarat, yet the large scale building activity began only in the early 13<sup>th</sup> century by the Turkish state after the Turkish conquest of north India.

Although Mughal architecture of north India is famous, the fascinating richness of Islamic architectural heritage in other parts of the country is not so well known. India has more beautiful medieval Islamic architectural heritage than any other country. This is a fact which most of us are not aware of.

#### Identification

Islamic architecture is characterised by a few visible symbols. One is the **arch**, which frames the space; the second symbol is the **dome**, which looms over the skyline; and the third is the **minaret**, which pierces the skies. Minarets were actually symbols in the middle of deserts. They represented fire, which was lit atop them to guide travellers. The dome represents the infinite and also the sky.

#### Different decorations

Hindus so far conceived manifestations of god everywhere in multiple forms as part of their religious faith whereas a Muslim thought of only one with Muhammad as His Prophet. Hence, Hindus adorned all surfaces with sculptures and paintings. Muslims forbidden to replicate living forms on any surface, developed their religious art and architecture consisting of the arts of *arabesque, geometrical patterns and calligraphy on plaster and stone*. In spite of the obvious Saracenic, Persian and Turkish influences, Indo-Islamic structures were heavily influenced by prevailing sensibilities of Indian architectural and decorative forms. A lot depended on the availability of materials, limitations of resources and skills and the sense of aesthetics of the patrons.

#### The New Elements Added by Muslims to Indian Architecture

- The Indo-Islamic architecture inculcates the elements of Saracenic, Turkish and Arab

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architecture.

- The Muslims absorbed many features of local cultures and traditions and combined them with their own architectural practices. So, a mix of many structural techniques, stylised shapes, and surface decorations came about through constant interventions of acceptance, rejection or modification of architectural elements.
- The first new element added in the Indian architecture was the ***use of shapes instead of natural forms***. This apart, ***use of calligraphy*** as inscriptional art was also a new element added to by Muslims.
- Muslim added the ***inlay decoration and use of coloured marble, painted plaster and brilliantly glazed tiles***.
- The **Dome was a new element** added by the Muslims. In contrast to the indigenous Indian architecture which was of the trabeated order i.e. all spaces were spanned by means of horizontal beams, the Islamic architecture was arcuate i.e. an arch or dome was adopted as a method of bridging a space. Here, we have to note that the arch or dome was not an invention of the Muslims but was borrowed and improvised from the architectural styles of the post-Roman period.
- The Muslims used the cementing agent in the form of mortar / Limestone / *Chuna* for the first time in the construction of buildings in India.
- The Indo-Islamic monuments were typical mortar-masonry works formed of dressed stones. It must be emphasized that the development of the Indo-Islamic architecture was greatly facilitated by the knowledge and skill possessed by the Indian craftsmen, who had mastered the art of stonework for centuries and used their experience while constructing Islamic monuments in India.

### Different kinds of Buildings

The major buildings include Mosques, Tombs, Dargahs, Minar and Minaret, Hammams, Gardens, Madarasa and Sarais.

### Categories

Indo-Islamic architecture is conventionally categorised into the following four categories:

- Imperial Style (Delhi Sultanate)
- Provincial Style (Mandu, Gujarat, Bengal, and Jaunpur)
- Mughal Style (Delhi, Agra, and Lahore)
- Deccani Style (Bijapur, Golconda).

Amongst provincial styles, the architecture of Bengal and Jaunpur is regarded as distinct, while the style of Gujarat was marked with borrowed elements from regional temple traditions such as



toranas, lintels in mihrabs, carvings of bell and chain motifs, and carved panels depicting trees, for tombs, mosques and dargahs.

### The Building Material

- One thing is very common in these buildings that the walls are extremely thick and largely constructed of rubble masonry, which was easily available.
- These walls were then cased over with limestone plaster or dressed stone.
- A variety of stones were used such as quartzite, sandstone, buff, marble, etc.
- In some cases, the Polychrome tiles were used to finish the walls.

From the seventeenth century onward, bricks were also used for construction and these imparted greater flexibility to the structures. In this phase there was more reliance on local materials.

## Architecture of Delhi Sultanate

The architecture of Delhi sultanate includes the buildings and monuments built in 320 years in Delhi and surrounding areas by Slave, Khalji, Tughluq, Sayyid and Lodi dynasties.

### Salient Features

Sultanate era marked the evolution and development of a new-type of Hindu-Muslim architecture in which decorative exuberance of the Hindu architecture was toned down and its place was taken by new elements such as use of geometrical shapes, calligraphy, inscriptional art etc. However, the elements of Hindu architecture still formed the basis of new architectural style. This was mainly because of three reasons. *Firstly*, the Muslim rulers had to employ Indian architects and masons; *Secondly*, early mosques were built by demolition of temples and the Muslim rulers used the same material of Hindu temples in making their mosques and tombs. *Thirdly*, rather than building new monuments from scratch, the early Muslim rulers resorted to convert the Hindu and Jain temples into mosques by making few alternations here and there.

From Delhi Sultanate era, we see the beginning of *use of the false archs and false domes (such as Quwwat-ul-islam Mosque) to true arch and domes (begins from Alai Darwaja) and reached its mature phase as Indo-Islamic art in the Mughal Era.*

While numerous square-plan mausoleums were built in Delhi, the new form of octagonal plan with a surrounding colonnade was developed from the last stage of the Sayyid through the Lodi rule. This is the best represented by Muhammad Shah's Tomb (1443) and Sikandar Lodi's Tomb (1517/8) in Lodi Gardens.

### Introduction of the Double Dome feature

The tomb of Sikandar Lodi was the first example with a double dome. The method of making double dome was originally practised in East Asia before it was imported into India.



A double dome has two layers and its objective was to lift the height of the monument and also keep its attraction intact. The problem with the single dome was that if it was erected very high, it left a deep void inside the building. If it was kept low, then it diminished the monumental effect of the building. To shoot both the birds with one arrow, the double dome was devised. In double dome, the dome instead of consisting of one thickness of masonry was composed of two separate shells viz. inner and outer with ample space between them.

The inside layer provides ceiling to the interior of the building, while the outer layer crowns the buildings. Use of two domes enables the ceiling inside to be placed lower and in better relation to the Interior space it covers. This is done without disturbing the proportions and the effect of elevation of the exterior. The attempts in the direction of Double Dome started with tomb of Taj Khan (1501 ) and the tomb of Sikandar Lodi (1518), both in Delhi. However, the fully mature form of the double dome is seen, for the first time in India in the tomb of Humayun.

### **Example Monuments of Delhi Sultanate**

The starting point for the development of the Delhi Sultanate architecture was Qutub Complex in Mehrauli of New Delhi. Here some 27 Hindu and Jain temples built previously during Tomars and Chauhans were destroyed. Using the same material in haste, the new mosques and minars were built. Due to hasty process of their making, the structural techniques of archs and dome were not used. Many of these building collapsed later but few of them are standing there even this date. The important monuments in Qutub Complex are as follows:

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### Alai Darwaza

Mamluk dynasty did not employ true Islamic architecture styles and used false domes and false arches. The first example of the true arch and true dome is in Alai Darwaza located in Qutub Complex. It was built by Ala-ud-din Khilji in 1311 AD.

### Qutb Minar

The minar is originally inspired by the Afghan architecture. It was to be built as a Victory Tower, to commemorate the victory of Mohammed Ghori. Its construction, as we all know was started by Qutub-ud-din and was finished by Iltutmish and later repaired by Firoz Shah Tughlaq and Sikandar Lodi.

The Qutb Minar was constructed from material collected from Hindu buildings and temples. For its decoration the Hindu craftsmen were used and they applied the same style of inlaying which they had been using in building temples. The floral designs, bells and chains were made to decorate the minar from existing material remains of temples.

### Quwwat-ul-Islam Mosque

This was first mosque built in Delhi after the Islamic conquest of India and the oldest surviving example of Ghurids architecture in Indian subcontinent. Built mainly on the rubbles of the 27 Hindu and Jain temples.

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### Alauddin Khilji's tomb and madarsa

This stands as one of the early example of amateur Islamic architecture in India.

### Alai Minar

Alauddin wanted to build a minar that should be double of height of the Qutub Minar. But this dream could never become true as the Sultan died even when the first storey was not complete!

In the oldest courtyard stands an iron pillar 7.5m long, which is thought to have been produced by Chandragupta II, in the 4th century. It was a Stambha dedicated to a Vishnu temple according to its inscription, and it seems to have been brought here before the Islamic conquest. This wrought iron pillar, with a Gupta-style capital on the top, is so highly refined that it has not suffered rust at all in spite of its exposure to the elements for 1,600 years.

### Tughlaqabad

Tughlq Dynasty constructed Tughlaqabad with magnificent stone ramparts. The important building is the tomb of Sultan Ghiyasuddin, which is a cubic structure of red sandstone crowned with a dome of white marble, becoming a model of later brilliant Mughal mausoleums in spite of its small scale. Tughlaqs also constructed the Firozabad, of which only the ruins of the fort of Firoz Shah Kotla and a part of the Friday Mosque remain.

## Indo-Islamic Architecture in Gujarat

Before the Muslim conquest, Gujarat was under the influence of Jainism. The master-craftsmen whom the Muslims employed to construct their buildings adopted Hindu and Jain designs with

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necessary modifications to suit the puritanical taste of Islam. Sultan Ahmad Shah was a great builder. He founded the city of Ahmedabad in the first half of the fifteenth century and built mosques and palaces. Numerous buildings were erected during the fifteenth century at Ahmedabad, Cambay, Champaner and other important places. One of the most beautiful buildings is the mosque of Muhafiz Khan, which was built towards the close of the century. Besides mosques and tombs, Gujarat is famous for its step-wells, irrigation works and public orchards.

The Gujarat Style was a judicious mix of Islamic and Indian traditions of architecture. The most notable point is that the **mason's guilds** worked here and these guilds were able to retain the high techniques of stone architecture and sculpture that had greatly developed in Gujarat before the Muslim invasion. This was a significant departure from the Sultanate monuments of Delhi, where the style used was relatively archaic. However, in Ahamadabad also, false domes and archs were used such as in Rani Sipri Mausoleum.

The first mosque **Ahmad Shah's Mosque** (1414), was made by the columns taken from existing temples. It was constructed in a wooden-like post and beam structure without using arches except for openings facing the courtyard and the Mihrab. Around the same time in 1424, the Jama Mosque was created which has great resemblance to the Jaina temples in Mt Abu and Ranakpur.

In Gujarat style, we find a lots of use of the Jaali work in stone. The example of exquisite Jaali work is the Sidi Sayyid Mosque (1572), which employs delicate design on the motif of a tree spreading its branches, is especially celebrated.

### Monuments of Indo-Islamic Tradition in Jaunpur

Jaunpur is located some 60km northeast of Varanasi. This place is known for a Jaunpur Sultanate of medieval times. The city dates back to 11<sup>th</sup> century but was devastated by the Gomati River. In 1359, Firoz Tughlaq had created a fortress there and later when the Tughlaqs became weaker due to the attacks of Mongols, one **Malik Sarwar**, a designated governor of Firoz declared himself independent and established the Dynasty of Sharqi. This Sharqi dynasty was a patron of art but they just demolished the temples and created monuments there. However, it was such grandeur of the monuments out there that Jaunpur was known as **Shiraz of India** in those times. There was a temple of **Atala Devi** in Jaunpur, which was broken and a new **Atala Masjid** was built over there.



**Atala Masjid, Jaunpur**

The politicians of Jaunpur became so powerful that they challenged the hegemony of Delhi once upon a time. But as the time changed, Jaunpur suffered the destruction by the Lodhi Dynasty in 1495 and its numbers of edifices were demolished in retaliation for the past. Today, Atala Masjid remains one of the few monuments as testimony to the once powerful Jaunpur Sultanate.

### Monuments of Indo-Islamic Tradition in Mandu

The Malwa kingdom, the capital of which was Dhar, was subjugated in 1305 by the Khalji Dynasty. When Alauddin Khilji was hiding himself in the Siri Fort to save himself from the Mongols, the Afghan-origin governor Dilawar Khan took advantage of the opportunity and declared himself independent. His son, Hoshang Shah (1405-35) relocated his capital in 1405 from Dhar to Mandu, a hill-plateau surrounded by deep gorges with magnificent views, and renamed it “Shadiabad”, the City of Joy.

Monuments of Mandu



These were the days of prosperity for Mandu. An array of mosques, mausoleums and palaces were built in the so called **Malwa Style of Architecture**. But later, Malwa was annexed by the Gujarat kingdom in 1526 and finally by Mughals in 1566. Later, Malwa was taken by Marathas, who reverted capital of the region to Dhar. After that, Mandu became a Ghost town.

### Notable Structures

During monsoon, Mandu is most romantic. Today people visit Mandu not for ruins but for the stories of unparalleled love of Baz Bahadur and Rani Roopmati. Here are the monuments of note at



Mandu:

### **Darwazas**

Mandu is the largest fortified city of medieval India. The wall encompassing Mandu has 12 major gates or darwazas.

### **Jahaz Mahal**

This palace is located between two artificial lakes. It was built by Ghiyas-ud-din-Khilji, and it served as a harem for the sultan, with a reportedly aggregation of 15000 ladies inside.

### **Hindola Mahal**

This Swing palace has sloping sidewalls.

### **Hoshang Shah's Tomb**

This tomb is said to be India's first marble structure and one of the best examples of Afghan architecture. It is truly Islamic in architecture with a beautifully proportioned dome, intricate marble lattice work and porticoed courts and towers. *The Hoshang Shah's tomb may have been used as a template for building the Taj Mahal.*

### **Jama Masjid**

Built on the rubble of the Hindu Temples, the most is a simple structure with large courtyards and grand entrances.

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### **Rewa Kund**

Rewa Kund was a reservoir that supplied water to the Rani Roopmati's Pavilion. It was constructed by her lover Baz Bahadur.

### **Rani Roopmati's Pavillion**

It was actually an army observation post. Rani Roopmati – the love interest of Baaz Bahadur lived here and is said to have gazed at the Baz Bahadur's Palace – situated below and also at Narmada river, flowing through the Nimar plains far below, a river which the queen revered.

### **Baz Bahadur's Palace**

Built by Baz Bahadur, this 16th-century structure is famous for its large courtyards encompassed by large halls and high terraces. It is situated below Roopmati's Pavilion and can be seen from the pavilion.

### **Features of Architecture at Mandu**

The architecture of Mandu is described as Indian functionalism. It generally lacks the expression and decoration. The mosques at Mandu are of Arabian type, lacking even a minaret, and their hypostyle worship rooms and cloisters surrounding a courtyard are built continuously and homogeneously.

### **Jahaz Mahal of Mandu and the Rainwater Harvesting System**

Mandu is located 2000 ft above sea level and had no aquifers or ground water; and had to be dependent upon rainwater during monsoon months. The Jahaz Mahal at Mandu is known for an elaborate rainwater storage tank which not only harvested the rainwater but also provided a soothing climate around the palace. Jahaz Mahal was built by Ghiyasuddin Khilji mainly to house the

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15000 ladies of his harem. There was a system of curlicues for filtering the rainwater and set of wells and baoris to store the filtered water. The water also fed two ponds (munja Talab and Kapur Talab) at both the sides of the palace. When these ponds were full of water, evaporation from them combined with the breeze and cooled down the building. This, coupled with the ship like site plan of the palace gave a feeling of sailing a ship; thus named Jahaz Mahal. Further, there were also swimming pools of heated water. In summary, Jahaz Mahal used rainwater as well as passive solar energy harvesting in conjunction with natural processes around it. Most of these structures have become defunct now except the wells and baoris which still provide some water to local inhabitants.

### Rainwater Harvesting System at Mandu



Water Filtration System



Ponds by the side of Palace



A Baori (step well) at Mandu

**The question is: Can Mandu's antique water system be restored and revived? Can it help to solve the drinking water problem in the surrounding areas?**

The answer may be yes but we have already lost the minute details of these ancient and medieval technologies of water harvesting, filtration, passive solar energy harvesting, natural cooling and heating etc. Further, pumping up water was more convenient than maintaining these structures, which although boasted of excellent architecture but also were primarily built around luxuries for the rulers. The interest in rainwater harvesting has revived only in last few decades when we are on brink of a water crisis.

## Monuments of Indo-Islamic Architecture at Bijapur

The name of Bijapur comes from the ancient Hindu name Vijayapura. It was a capital of the Adil Shahi Dynasty, established by the governor of Belgaum, Yusuf Adil Khan, first of all among the Five Deccan Kingdoms viz. Bijapur, Berar, Ahmadnagr, Bidar, and Golconda, disunited from the Bahmani Dynasty in the 15th-16th centuries. Bijapur was the longest lasting among the five kingdoms, thriving for two centuries, until its destruction by Mughal emperor Aurangzeb in 1688.



### Monuments at Bijapur



Mihtar Mahal



Gol Gumbaz

### Salient Features

As a matter of fact, Bijapur suffered little destruction in the wars and that is why, this city beautifully shows the monuments of the Medieval era, which were made in the Deccani style. The structures here match the mature Mughal architecture of north India. The special features are bulbous dome, whose lower part is wrapped in **rose/ lotus-petal-like elements** and numerous smaller domes instead of the *Chhatris* that are visible in mughal style. This is evident in the Gol Gumbaz, which is the summit of Islamic architectural achievement in Bijapur. This Gol Gumbaz is the Mausoleum of Muhammad Adil Shah II who was the successor of Ibrahim Adil Shah II.

### Gol Gumbaz

Gol Gumbaz or the rose dome is the mausoleum of Mohammed Adil Shah, built by architect Yaqut of Dabul. The structure is composed of a cube, 47.5 metres on each side, capped by a dome 44 m in external diameter.

Eight intersecting arches created by two rotated squares that create interlocking pendentives support the dome. The crossed arches in annulations based on a square plan, is the largest scale in India and the largest volume in the world.

Such a great space as high as 50m indicates that Indians perfectly mastered the technology of Islamic architecture in 17<sup>th</sup> century and surpassed Middle Eastern architecture.

## Monuments of Islamic Architecture at Sasaram

Sasaram in Bihar was the base of Shershah Suri, who declared independence from the Lodi Dynasty in 1535 and established the Sur Dynasty. In 1540, he defeated Humayun of the Mughal Empire and held hegemony in northern India entirely. But his death amid the warfare led to the destruction of Sasaram by Humayun.



Tomb of Shershah Suri, Sasaram

### Mausoleum of Shershah

Sasaram represents a stage just before the development of Mughal Architecture. The place is known for the Mausoleum of the Afghan tiger Sher Shah. The mausoleum was erected on a square podium on an island-like square stylobate, created in an artificial lake.

It attains 46m in height and the inside diameter of its dome is 22m, the inner volume of which is the largest in northern India.

This mausoleum was made in sandstone and it appreciated as one of the best octagonal mausoleums in India due to its good proportion and brilliant formation arranging two tiered chhatris, which are analogs of the main dome.

## Mughal Architecture

Neither Babur nor Humayun lived long enough to enjoy the newly founded Mughal Empire. The reign of Akbar (1556-1605) witnessed the development of the mughal architecture. The most important features of the Mughal monuments in India are the **bulbous domes** with constricted necks, the **slender minarets** with *cupolas at the four corners*, **large halls**, **massive vaulted gateways** and **delicate ornamentation**. Red Sandstone was amply used in Mughal monuments.

- The largest difference from other regions of Islamic art from the Mughal Art is that the Mughals produced *many masterpieces in mausoleums than in mosques*.
- The *Mughal art was essentially Persian in character in the beginning*. Once defeated by Shershah, Humayun had fled to Safavid's Persia for 15 years and then returned to Delhi in 1555, bringing a large number of Persian architects and painters with him, greatly contributing to Mughal art afterward, encouraging its Persian character.

### The Concept of Charbagh

One of the greatest early deeds of Mughals is that they brought the Persian **Charbagh** style to India.

- Charbagh is a Persian-style garden layout, in which the main building is put at the centre of a quadrilateral garden, divided by walkways or flowing water into four smaller parts.
- **Humayun's tomb** and **Taj Mahal in India** are the most famous examples of this style. In



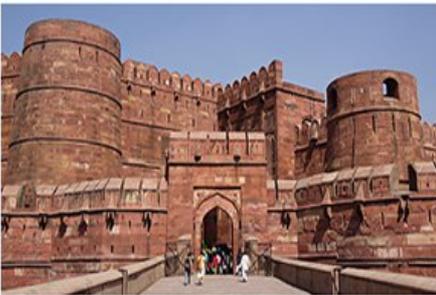
the Charbagh at the Taj Mahal, each of the four parts contains sixteen flower beds.

- **Ram Bagh** (corrupted form of Aram Bagh) was the oldest Mughal Garden in India, originally built by the Mughal Emperor Babur in 1528, in Charbagh style. It located about five kilometers northeast of the Taj Mahal in Agra, India. Babur was temporarily buried there before being interred in Kabul.
- Another typical example of the Charbagh style is the mausoleum and its garden of **Ītimād-ud-Daulah (1628)**, father of Nur Jahan, located in Agra. The tomb, embellished with delicate inlaid works using colored stones despite a white house of white marble wholly, is a jewel of Mughal architecture.
- When Humayun tumbled out of this world silently under the influence of opium, his widow made the first full-blown piece of Mughal architecture, the Humayun's Tomb in Charbagh style in Delhi.
- The Humayun's tomb is the **first garden-tomb in India**. It was also the first structure to use red sandstone at such a scale. The tomb was declared a UNESCO World Heritage Site in 1993. This was the first splendid monument of the times of Akbar, created mainly in red sandstone and white marble.

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Akbar's built the Red Fort at Agra in Red Sandstone. The grand mosque and palaces at his *ad hoc* capital in Fatehpur Sikri and his own tomb at Sikandara are the best example how the Islamic architecture merged with Indian traditional wooden-like post and beam structure. Some call it the **Akbar Style!**

### Mughal Architecture Examples



Agra fort



Akbar's Tomb Sikandra



Chhatra at Diwan-i-Khas; Fatehpur Sikri

### Monuments of Mughal Architecture at Agra

The Agra Fort was originally a brick fort of Hindu Sikarwar Rajputs. It was first captured by Ghaznavis in 1080 AD. Four centuries later, Sikandar Lodi would become the first Sultan of Delhi to live here (in 1488) and make it his second capital. Sikandar Lodi died in the fort itself and his son Ibrahim Lodi was able to sustain it for some 9 years before he was defeated and departed to the other

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world by forces of Babur. The Mughals were able to capture the huge treasures of this fort which also included the *Koh-i-noor* diamond, the one which did not impress Babur. Here, the coronation of Humayun took place in 1530. In 1540, Humayun was defeated by Shershah and for next 15 years, the fort remained with Suris. Later it was captured by Humayun again and remained the capital of Mughals for next three generations. Till the time Akbar conquered it, it was a brick structure called Badalgarh. During the times of Akbar, Red Sandstone was imported from Barauli area of Rajasthan and thousands of workers made it in a span of eight years.

- The main material of the buildings in the fort were also red sandstone, but the only extant building is the Jahangir Mahal, the others were reconstructed entirely with white marble by Shah Jahan, such as the *Khas Mahal* and *Diwan-i-Aam*.
- The Moti Masjid which was originally the Friday Mosque and Nagina Masjid the Royal Oratory, are also Shah Jahan's white mosques.

### Taj Mahal

The climax of the Charbagh Style was Taj Mahal, which Shah Jahan constructed for his deceased favourite wife, Mumtaz Mahal, and the garden of the other side of the river, the Mahtab Bagh. The tomb is considered as the supreme masterpiece of Indo-Islamic architecture due to its figure of pure whiteness with the highness of refinement and superb proportion.

### Monuments of Mughal Architecture in Delhi

#### Purana Quila

- Humayun commenced constructing the sixth city, **Dinpanah**, in greater Delhi in 1534. But when Humayun was defeated by Shershah, its construction was continuing, renaming it Shergarh. There remains the Purana Qila with the **Qila-i-Kuhna Mosque**
- This Purana Quila is oldest known structure of any type in Delhi. The site seems to be the ancient Indraprastha, the capital of the Pandavas.
- The **Qila-i-Kuhna Mosque** built by Sher Shah in 1541 is an example of pre-Mughal design. There is extensive use of the pointed arch in the region with the 'true' horseshoe-shaped arches.

#### Humayun's Mausoleum

- This tomb was created in 1571 and here, the principles of tomb architecture of that sort on the height of Mughal architecture were established. This tomb is in Charbagh style, a four-faced building open to four directions by means of Iwans and crowned with a white marble dome and enlivened with Chhatris on the roof.
- The dome is Double Dome, providing a ceiling at a height suitable for the interior, and a roof at a height desirable for the exterior view.
- The tomb itself is also doubled, with a cenotaph on the ground floor and a true sepulchre



underground.

- This mausoleum was designed by Persian architect, Mirak Mirza Ghiyath and most of the later mausoleums in India followed this form and its climax was the Taj Mahal.

### Shahjahanabad

This is the 7<sup>th</sup> city of Delhi built by Shahjahan and today we know it as Old Delhi. It is approximately shaped like a quarter circle, with the Red Fort as the focal point. It is surrounded by a wall enclosing about 1,500 acres, with 14 gates, out of which 13 survive today. Through the palaces and Charbaghs in the Delhi Fort (1639-48), also called the Red Fort (Lal Qila) like the Agra Fort because of its red sandstone walls, the emperor's intention to actualize the earthly paradise was consistently fulfilled.

### Monuments of Mughal Architecture at Fatehpur Sikri & Sikandara

Fatehpur Sikri was the first planned city of the Mughals. It is also the place demonstrating the first heritage of the Mughal architecture. It was virtually the capital of Akbar from 1571 to 1585. However, later it was abandoned mostly because of the problem of drinking water supply.

Fatehpur Sikri is a world heritage site declared in 1986. The important monuments in Fatehpur Sikri are:

- Buland Darwaja : Built in 1576-77 in commemoration of Akbar's Gujarat Victory.  
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- Jama Masjid
- Tomb of Salim Chisti: This is a singular monument encased in white marble encrusted with mother of pearl (Nacre) mosaic. the Jalis in the circumambulation with intricate geometric designs is its special feature.
- Diwan-i-aam: The hall of public audience
- Diwan-i-Khas: The hall of private audience.
- Naubat Khana: the Drum House
- Panch Mahal: The court for ladies.
- Birbal's house: the home to the favourite Vazir of Akbar.
- Anup Talao: A pool

Today, this beautiful city, though a great tourist destination, is a deserted. It was abandoned and ever since has remained the desolate and abandoned city. A few years back, some Jain & Hindu idols were found which were dated 1010 AD near the *Birbal ka Tila* site which have rise to a hot debate that this beautiful city was actually a great Hindu site, that was vandalized by the great Mughal.

Whatever may be the truth, but palaces, tombs, mosques, baths, lake and everything at Fatehpur Sikri is a great Indian Heritage through which we recognize the grandeur and pomp of Akbar, greatest of Indian emperors.

### Mausoleum of Salim Chishti

The Mausoleum of Salim Chishti standing in the courtyard, entirely made of white marble, is a gem



of tomb architecture despite its relatively small scale, with deep Chajja (stone eave plates) and delicate Jali (stone lattice works).

### Akbar's Tomb at Sikandara

The tomb was also built (1603-1613) in Charbagh style. The area of the precinct comes up to 48 hectares, four times grander than the Humayun's tomb and is the ***largest Charbagh in the world.***

The tomb itself is not covered with a dome, but there are piling numbers of chhatris like a jungle gym on a high platform, and making the roofless terrace on the top floor an open tomb hall.

#### Akbar's style

The building projects done during the times of Akbar are mostly constructed of red sandstone with limited use of white marble. The central theme is the use of the trabeated system, arcuate forms being adopted mainly for decorative purpose. The ornament consists chiefly of carvings or bold inlay, perforated screen work, and artistically painted design on the walls and ceilings in gold or colours. The architectural style of Akbar is marked by a judicious mix of purely indigenous and foreign forms. The buildings lack domes but there is extensive use of Chhatris.

Its construction began in 1603 during the lifetime of Akbar and it appears that his intentions to reconcile Muslims and Hindus for the sake of the empire were also applied to his architecture. This tomb is an excellent example of the fusion of Hindu architecture based on the post and beam structure and Islamic architecture based on pure geometry, an unprecedented striking mausoleum came into being.

If we compare this monument with Taj Mahal and other monuments, we can say that Akbar's tomb is the most Indianized Islamic architecture. This method, called "**Akbar Style**" was in fact inspired from the buildings in Fatehpur Sikri.

### Importance of Chhatri in Mughal Architecture

Chhatri is an architectural decoration that developed and became quite popular in Indo-Islamic architecture, particularly under the Mughals. It is a small turret with stone columns, principally four, supporting a dome with Chajja under the dome.

The Islamic architecture is known to support the domes with walls. But Indian had been working on the wooden architecture since ancient times. They adhered to a wooden-like post and beam structure and that is how created such a light architectural component, using stone columns, to embellish all kinds of buildings, on the roofs, walls, and towers.

Chhatris are commonly used to depict the elements of pride and honor in the **Rajput architecture of Rajasthan**. They are widely used, in palaces, in forts, or to demarcate funerary sites. Originating in Rajasthani architecture where they were memorials for kings and royalty, they were later adapted



as a standard feature in all buildings in Rajasthan, and most importantly in Mughal architecture. As a component of buildings, Chhatra continued in the colonial architecture of Indo-Saracenic style also.

### Indo-Saracenic style

Saracenic was a term used by the ancient Romans to refer to a people who lived in desert areas in and around the Roman province of Arabia, and who were distinguished from Arab. Some use this term to refer to Indo-Islamic Architecture. However, it basically refers to the style that diffused from the 1870's to the early 20th century for **colonial buildings in India**, adding the elements of Mughal architecture, to the base of **Victorian Gothic style**.

#### Indo-Saracenic Architecture Examples



Victoria Terminus, Mumbai



Gateway of India, Mumbai



Madras High Court, Chennai



Rajpath, New Delhi

Initially the British constructed governmental and public buildings in European classical styles regardless of Indian local climate and traditions. Only after the 1858, the local architectural traditions, especially the Mughal tradition were introduced to the colonial erections. This was also the time of Gothic Revival, so Gothic features were used as the base and the domes and Chhatris were used to produce the external appearances to the buildings. This is the reason that it is also known as **Indo-British style**.

- Early examples of Indo-British Style are the New Palace of Kolhapur (1881) designed by Charles Mant and Muir College (1886) in Allahabad designed by William.

### The Palladian Style

When the British became a power, there were three styles prevalent in England viz. the **Palladian**, **Baroque** and the **Victorian**. The Palladian style of architecture is based on the works of Andrea Palladio (17<sup>th</sup> century) of Italy. It could be identified with a few features such as the ceilings as an ornamental focus, mouldings often featuring masks, terms and shells or other depictions of nature, fireplaces and wall painting. A great central tower rising from a succession of traced roofs is one important characteristic of this style. The another important feature is **Palladian window**, which consists of a central section with semicircular arch over and two sections on either sides, all supported by pillars, as shown in the adjacent image. This was a feature inculcated in India in some buildings (in Lucknow for example) though as such we don't find any monument made purely on Palladian style.

#### La Martiniere Lucknow

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The early Britons sought to introduce the Palladian style in the form of the La Martiniere in Lucknow. It was built by Claude Martin, a wealthy eighteenth-century Frenchman, who was an officer in the French and later the British East India Company. Martin acquired his fortune while serving Asaf-ud-Daula, the nawab wazir of Awadh, and was reputedly the richest Frenchman in India. The building, called Constantia at that time is now serves as a college.

### The Victorian Gothic Style

When, India saw the emergence of presidencies of Madras, Bombay and Bengal, the fashion in England was of Gothic revival and neoclassical architecture. At the same time, the Victorian style was also in vogue. So, in the years to come, the buildings and monuments saw a mix of Indian (Mughal) style, Victorian, Gothic, Palladian, Baroque and other styles. However, none of the styles prevalent in Europe in those times were original. All of them were either imitated features from earlier Romanesque or Georgian architecture. The Victorian Gothic Architecture thus, was basically a hotch-potch of early European styles mixed with the introduction of Middle East and Asian influences.

The Victoria terminus station (Now the Chhatrapati Shivaji Station), in Mumbai, is one of the examples of **Victorian gothic revival architecture** in India. This monument represents the themes deriving from Indian traditional architecture. This building designed by F.W. Stevens, became the symbol of Bombay as the gothic city. The other such important buildings were as follows:

- **Mumbai:** Rajabai Tower
- **Bangalore:** The Glass House, Lal Bagh Botanical Gardens
- **Kolkata:** The Victoria Memorial Hall, GPO, Raj Bhawan and High Court of Calcutta
- **Delhi:** The Darbar Memorial, Mutiny Memorial, St. Stephen's College, Secretariat Complex, North Block
- **Kottayam:** Holy Trinity Cathedral
- **Mysore:** St Philomena's Church
- **Shimla:** St Michael's Cathedral, Christ Church, Gaiety Theatre , Gorton Castle , Viceregal Lodge

The Victorian Gothic buildings in India represented the British imperial wishes to perpetuate the memory of Queen Victoria. In some cases, they also wished to satisfy the Indian aspirations by inculcating the oriental substance and elements in the buildings. This was the beginning of the **Indo-gothic or Indo-Saracenic revival**. The monuments now created drew the elements from the indigenous and indo-Islamic architecture and combined it with the gothic revival and neo-classical



styles favoured in Victorian England. One the best example is the Victoria Memorial Hall of Kolkata, which inculcates numerous Mughal elements in its design.

Such monuments were built on advanced engineering standards. The material such as steel, Iron and poured concrete started getting used. The most important features of the buildings of this revival were as follows:

- Bulbous domes along with many miniature domes
- Overhanging eaves
- Pointed arches, cusped arches, or scalloped arches
- Vaulted roofs
- Domed chhatris, pinnacles, towers and minarets
- Open pavilions
- Pierced arcades.

### Architecture in Delhi

In 1911, the capital of British India was shifted to Delhi. From 1912 to 1931 British architects Sir Edwin Lutyens and Sir Herbert Baker designed the new imperial capital of India. The objective was to successfully combine the local traditions with a statement of colonial power. These architects studied the Buddhist, Hindu and Islamic features while drawing and redrawing their plans. The Lutyens Delhi finally emerged with a huge dome with most if the building representing elements of the Hindu or Islamic architecture. The structures such created like the Mughal Gardens brought the majesty of Mughal periods, though the utility of the structures were comprised to a great extent.

The Viceroy's House (Now Rashtrapati Bhawan) was inspired by the neoclassicism but to a great extent was able to bring back the Mughal architecture in its use of red and yellow sandstone, its dome, and in other details.

## Post-Independence Architecture

Immediately after the independence of India, the Modernism swept through the new buildings constructed to meet the new needs such as for schools, government buildings, housing for the poor, urban renewal, and new capital cities of various states. Collaboration with internationally renowned architects created distinctive design innovations that blended modernist and Indian style.

Immediately after the independence, the field of Indian architecture saw two major challenges:

- To bring back the glory of the past
- To step forward with new-fangled concepts.

The architects were successful in creating an architecture which could define the post-independence era to some extent. Right from commercial architecture, urban design and re-development, low cost



architecture to housing, institutional, industrial and sensitive issues like conservation and sustainable architecture; all have acquired an exceptional connotation.

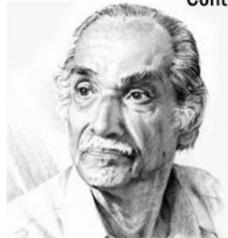
Contemporary Indian architecture to a large extent is reflected in its new boom of corporate campuses, shopping malls, and skyscrapers. Many of them reflect a growing trend of sustainable and green architecture.

The contemporary architects have induced a multi disciplinary approach to architecture which includes consideration of climate, ecology, energy efficiency, engineering and programming skills, use of 3d for better visualization, alternative technology and lost cost architecture.

### Contemporary Architects



Le Corbusier



Achyut Kanvinde



Laurie Baker



B V Doshi



Charles Correa

### Le Corbusier

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The best-known architect recruited to the efforts of creating a new India was one of the founders of modernism in architecture, the Swiss Le Corbusier. The showpiece of his genius is Chandigarh, built as the capital of Punjab and Haryana. Outside Chandigarh, Le Corbusier's most influential structures include:

- Sarabhai House, Ahamadabad
- Millowner's Association Building, Ahmedabad.
- Interstate Bus Terminal, New Delhi
- Permanent Exhibition Hall of Prāgati Maidan, New Delhi

### Architecture of Le Corbusier: Critical Appraisal

The original name of Le Corbusier was Charles-Edouard Jeanneret. He was born in Switzerland in 1887 and when he moved to Paris at the age of 20, adopted name of his maternal grandfather as his pseudonym. He was one of the founding fathers of the modernist movement and of what has come to be known as the "International Style" in architecture. He is best known for the idea of a house as a "machine" to live in. His urban planning ideas were influential; readily accepted and implemented on grand scale. However, critics claim that most of them were cold inhuman totalitarian plans and resulted either in failures or in miserability. Indeed, some of his plans were utopian provocations and indeed resulted in failures {example Ville Radieuse, Ville Contemporaine}. Nevertheless, Corbusier was more an architect than an urban planner.



### Achyut Kanvinde

Achyut Kanvinde (1916-2002) has been regarded a pioneer of the modern architecture in India. His influence on the wide use of flexible concrete column and beam grid in India has been much acclaimed. However, his main contribution to India's built environment remains giving priority to people's need over imposing intentions of designers. The **ISKON Temple** and National **Institute of Bank Management** (NIBM) at Pune are some of his hallmark architecture. He is known to have many institutional buildings in India such as \_\_\_:

- Physical Research Laboratory, Ahmedabad
- Council of Scientific and Industrial Research
- IIT Kanpur Campus (1966)
- Institute of Rural Management, Anand
- Nehru Science Center, Mumbai
- National Science Center, New Delhi
- ISKCON Temple, East of Kailash, Delhi

### Laurie Baker

Laurie Baker (1917-2007) is known as the "**conscience keeper of Indian architecture**" and "**Gandhi of Indian architecture**". He is known to have learnt from the practices of vernacular architecture and turned the indigenous methods into the modernism.

He was famous as a builder of **affordable homes for the poor**. His greatest contribution was showing that cost-effective and ecologically sustainable construction does not automatically imply shoddy building and reduced creative freedom. Instead, when technologies are adopted with care and creativity, they could lead to a unique architectural expression.

He was known as the conscience keeper of Indian architecture **because** his method was the *very opposite of the prevalent model in India which followed the British system*. At a time when Indian architects were following the British way of designing and directing operations from their drawing boards as 'consultants' far away from the bustle of the site, Baker organized his work as a designer-builder in the manner of the traditional Indian mason. He is not known to have maintained a regular office or a battalion of assistants.

He generally sketched on wastepaper, and designed largely on site. His personal approach resulted in the cost-effectiveness design, which would have been impossible in normal professional mode.

His architecture has been associated with brick (largely exposed), landscaped courts, jaalis, traditional Indian sloping roofs. He did profess that an architect's design responsibility is realised when the user is not just kept in mind but understood by his manner of living, within the space as well as in the regional spirit of collective growth, in the physical as well as time frames.



### B V Doshi

B V Doshi (born 1927) is considered an important figure of South Asian architecture, and his work is known as an essential gauge of Asian identity in the global milieu. He is known for contributions to the evolution of architectural discourse in India. He is known for his contributions to the architecture of **Indian Institute of Management Bangalore**.

He is also known for a peculiar design of the **Amdavad ni Gufa** in Ahmedabad. **Amdavad ni Gufa** is an underground art gallery, which exhibits works Maqbool Fida Hussain. It is a cave-like underground structure whose roof is made of multiple interconnected domes, covered with a mosaic of tiles. On the inside, irregular tree-like columns support the domes.

His works are known for his preference of exposed materials and subdued natural tones.

### Charles Correa

Charles Correa (1930-2015) played a pivotal role in the creation of architecture for post-Independence India. His works are known to have brought forth a skilful use of colour in Indian architecture.

His working style implies adeptness in comprehending traditional architecture and in merging the modern typology with **South Asian elements**.

The visual imagery and treatment of surfaces brings an element of youthfulness in all his projects. His famous project namely Cidade de Goa shows his artistic play of light and shade on the walls.

His famous works are the **Mahatma Gandhi Memorial Museum** at the Sabarmati Ashram in Ahmadabad and the **Jawahar Kala Kendra in Jaipur**. He is also behind the planning of Navi Mumbai, MIT'S Brain and Cognitive Sciences Centre in Boston and the *Cidade de Goa* in Goa.