CONCLUSION
The city of Jaipur was founded by Sawai Jai Singh to make it a commercial hub or a centre of trade, an administrative centre, as well as, a centre of scientific learning, particularly in the fields of Astronomy and Mathematics. A number of inferences can be drawn from the analysis and study of the aspects and intricacies of the foundation and early history of Jaipur City.

The foundation of the new capital city of Jaipur could be justified by two plausible factors – the political dominance which the State of Amber had already acquired in erstwhile Rajputana under the patronage of the Mughal rulers, and the need for an environment that would be suitable as the new capital of the State. The foundation of Jaipur was too an outcome of new economic dimensions. Economic shift from agriculture to trading and commerce compelled the Kachhwaha Ruler to establish a new capital city having conducive commercial atmosphere.

The city plans, which were prepared by the master architect and his associates, submitted to the Maharaja for his instructions and approval, and when all the plans were approved, the foundation of the new city was laid. The walled city of Jaipur was founded in many successive stages. The buildings of the City and its surrounding walls and gates were started with official ceremony in Nov. 1727 A.D. During the lifetime of Sawai Jai Singh eight gateways were built in the walled city of Jaipur and which are still extant. After the completion of the palace, basic layout - main roads, the city wall and its gateways, Jai Singh started the construction of the masonry shops with uniform shape and size on the cardinal roads. After the official foundation of the city, Jai Singh invited influential merchants and traders, and artisans and craftsmen from different parts of Rajasthan and other places to settle down in the city and to do business there. Just after completion of the main wards of the city of Jaipur, Jai Singh had applied to the Mughal Emperor for the imperial recognition of his new capital city, which was officially recognized by the Emperor to be the capital of the Kachhwaha State, after seven years of its foundation.

Nomenclature of the localities in the city suggests that Jai Singh and his architects used names prevalent in the contemporary Rajasthan and Shahjahanabad. The names of Chowks or the squares are indicative of the Mughal planning system inspired from the palatial structures of Shahjahanabad.
Jaipur was founded as a fully planned city as confirmed from the layout of its artery roads and streets, and the uniform look of its main markets. The planners of the Jaipur City planned it keeping in consideration of the topography of the area. But it took some time to plan and manage for adequate resources and competent planners to carry it out successfully according to Jai Singh’s wishes. Jaipur was regularly planned through the contours of the site inhibited the complete realization of the ideal square, particularly in the initial stage of its foundation. The plan of the city was developed initially with perfect symmetry in the four square sectors where central one was reserved for the Royal Palace Complex, second for Rajput Thakurs, third for leading courtiers, and the fourth one for traders.

The walled city of Jaipur is broadly divided into two portions by a long and very wide main axis-road running east to west from Surajpol to Chandpol Gate, though which is slightly inclined to the south-east direction. This road is crossed at right angles by three other straight roads having almost the same width, dividing the city in many rectangular blocks or Chaukris. Thus the town planning of the walled city of Jaipur follows the ‘Grid-Iron Pattern’ or the ‘Chess-Board System’ of street planning. All together, there were nine blocks, and all the blocks, except the Palace, Gangpol Chaukri and Brahmapuri, seems to be of almost equal size. In this way streets are either parallel or perpendicular to each other. The width of the streets decreases from the main roads to by-lanes. The blocks are further sub-divided into the smaller rectangular and square blocks by a large number of block streets and lanes parallel to both the cardinal axes and again crossing each other at right-angles. At the crossing sections of the east-west axis road and the other three perpendicular main roads, there formed three Chowks or the squares with a side three times the width of the main road.

The old city of Jaipur is enclosed by the fortified wall. The ditch or moat around the city wall is conspicuously absent, though medieval cities generally were accomplished with enclosure and moat. It is the fortification wall which gives the shape of an irregular rectangle to the city, due to its projection in the north-western side. At present, the wall is absent in the north-west of the city. But there are remains of the old city wall around Brahmapuri, observed on the road to Gaitor. The city wall of Jaipur was naturally protected from three sides by the hills but the southern city wall is without any
natural defense. The peripheral demarcation of the city i.e. the city walls were guided by the location of its gateways.

Jai Singh introduced a new dimension to architecture. The uniformity of the walled city - the almost uniform height and similarity of architecture of the houses and shops built on the main roads - was very striking. This is specially striking on both sides of the Johri Bazar. In some part of the city, the top of these buildings have been decorated with domes and arches, and most such buildings enshrine temples. The beautiful effects of these external decorations are also seen on the buildings situated on the east of the Sireh-Deori Bazaar.

The areas in rectangular plots were allotted to individuals and temples, etc., and the square plots were kept reserved for the prominent persons of the state. The location and the type of haveli or mansion were determined by the owner's socio-economic and political conditions that is the caste, occupation and the relation with the ruler. There are some beautiful but abandoned havelis in Ghat-ki-Guni, which belong to a unique building type of tiered garden havelis adhering to symmetrical and axial planning. In many respects, the complex presents the basic principles of architecture. The facades of the structures are symmetrical and contain elements showing definite rhythm and symmetry. The complex depicts the use of all architectural elements of Rajputana Architecture including the bangla roof, domes, twin columns, trefoil and cusped arches, wide eaves and brackets with materials- rubble and render- and finishes as used in the walled city.

The contribution of Jai Singh was enormous in founding and making the city of Jaipur as a centre of scientific learning- especially in the fields of Astronomy and Mathematics. Voluminous work on scientific literature was produced by a galaxy of scholars under his patronage. Before Jai Singh, the Indians had no astronomical instruments of precision of their own, neither were they interested in making practical observations of the celestial bodies. Jai Singh tried to synthesize the existing three schools of astronomy- the Indian, the Central and West Asian, and the European. After a thorough analysis of the collected subject material belonging to these three schools, he made improvements and innovations in the field of instrumentation, and after taking astronomical observations for a long time
at different places, he prepared the more accurate astronomical tables and tried to find out, the patterns in the motions of the celestial bodies so that their future phenomena might be forecasted and more accurate calendar could be prepared. The methodology, followed by him in achieving his scientific goals, systematically covers almost all dimensions necessary for the scientific research and development i.e. ‘institutionalization’ of the scientific learning, ‘instrumentation and observations’, and ‘theorization’ of the observed data. The organization of observatories was not a whimsical development or a mere copy of the earlier developments but it was a major development of the tradition, with innovative contributions in the fields of instrumentation, observations and theorization.

Jai Singh became well acquainted with Indian and Greek mathematics, and up to some extent, he was aware of contemporary European developments in the field of mathematics and had acquired various Greek and Arabic works as well as other European texts dealing with the subject. He himself wrote a book on mathematics, which was a major contribution, and is similar to the efforts made by earlier scientists, such as Al-Tusi, Al-Kashi and Al-Kuschi. Further more, the use of mathematics in astronomy was not an accident or of limited potential, as would be evident from its extensive use in the planning of the Jaipur City and in the instrumentations. Besides, he used mathematics in his Intelligence Service, in the codification of secret messages. Trigonometry and trigonometric values developed in India provided a direct link between mathematics and natural sciences, in this case, astronomy. The linkage of mathematics with instrumentation as well as observational astronomy (natural science) is also extremely important, because some scholars have suggested that the main reason for the non-development of scientific tradition in the non-European culture areas was the absence of this linkage.

Despite all his achievements or contributions and innovations in the field of instrumentation, Jai Singh also had some limitations. He did not follow completely the line adopted by the revolutionary European astronomers, such as, Copernicus, Kepler and Newton, and remained dependable to the traditional one (the ‘geo-centric’ system). It seems that Jai Singh was not wholly responsible for this and the prevailing circumstances also played a crucial role. By the time Jai Singh became acquainted with the progress
made by the European astronomers, he had already partially carried out his own scheme of astronomical research, and considerable work had been done on his tables with the help of the data given by the Delhi Observatory built a few years ago. Jai Singh’s European advisers, who were mostly Catholic priests, did not fully emphasize the importance of the researches of Copernicus, Kepler and Galilei Galileo. More recent European discoveries might have been discredited in Jai Singh’s eyes because of the reason that till the life time of Jai Singh i.e., before mid-18th Century, the direct benefit or outcome of these discoveries had not appeared in the European societies.

The lack of institutionalization of the scientific knowledge at the mass level was the main degenerating factor behind scientific and technological backwardness in the non-European countries including India, during the pre-modern period. Jai Singh had realized this fact, as he took initiative to establish the astronomical observatories at five different places, and further, tried to institutionalize the mathematical science- on the mass level in India by making plans, although they could not be materialized, for establishing a large number of observatories throughout the Mughal Empire. Unfortunately, Jai Singh’s efforts in the field of scientific research and his future projects for its development came to an abrupt end after his death in 1743 A.D.

With in a few years of its foundation and shifting of the Capital from Amber to Jaipur, the city of Jaipur prospered quickly and became the largest- as its estimated population comes out to be about 50,000 - and richest city of Rajasthan during the period under review (from its foundation in 1727 A.D. till the mid-18th Century). Besides being a leading centre of transit trade and flourishing market and an important centre of manufacturing in various articles, viz. woolen clothes and fabrics, gota-kinari, pottery, enamel work on gold, silver and brass, the marketing system of Jaipur was well organized and its was renowned for ‘banking and exchange’ operations. The emergence of the city as a commercial hub or a centre of trade during the second quarter of the 18th Century was due primarily to the ‘geo-political’ conditions which prevailed in Rajasthan after the death of the Emperor Aurangzeb and the rapid weakening of the Mughal Empire and its administrative structure. Though, situated at the junction of many important trade routes connecting famous trade centers of Rajasthan as well as other parts of India, Jaipur got
tremendous growth in trade further with the shift of some important trade routes which connected Delhi and other important centers of Northern India and passed through Punjab. Due to the disturbed condition in the Punjab, traders changed their trade-routes and adopted other routes which passed through Jaipur.

Jaipur emerged rapidly on the commercial horizon in the critical scenes of the first half of the 18th Century. Besides its geo-political conditions which contributed a lot in its rise, the main credit seems to go to the state-policy i.e. Jai Singh’s initiatives in the economic field, especially his policy towards various socio-economic groups, local industries and organization of the markets, was the main generative factor behind it. A large number of merchants, artisans and bankers were invited from different parts of the country to settle down in the city and various facilities and incentives to them were provided by the State. The ruler took keen interest in the growth of indigenous production which was preferred while making purchases for State’s use. By establishing Karkhanas in the city, the State gave patronage to artisans and craftsmen of various descriptions, local as well as migrants, trained them in their respective vocations and ensure a consistent output of utility items, arts and crafts from them. The artisans employed in the royal Karkhanas or engaged in private industries, which were usually managed by skilled artisans, received patronage of the State in production. It was because of State’s effort that a large number of skilled craftsmen from all over the country came and settled in Jaipur, and consequently handicrafts received a great impetus.

The success and smooth functioning of the city to some extent lies in providing full fledged water system to cater the needs of the dwellers of the city. The city of Jaipur and surrounding area was embellished with a well developed hydraulic system. There was an elaborate system of water management- rain water collection, its conservation and supply system. The whole system was made in such a way that every effort was made to ensure the optimum utilization of it. The rivers – Jhotwara, Banganga, Banas, and Darbhavati - were surveyed and the natural channel of each was taken into consideration, and water was channelized towards the city through a number of water canals. In the area, there found many types of masonry water bodies which may be categorized as: water bodies for storage, inlet and outlet channels or the distributory channels, water cistern or the
filtration chambers and water works for pleasure. The water management system of Jaipur was composed of canals, dams, reservoirs, ponds, tanks, kunds, wells, step-wells, channels, aqueducts, etc. Basically this system facilitated the conservation of rain water and its distribution for catering the various human needs within the city and outside as well. Besides, a precaution has been taken to device the water system in such a way that it may be available for cattle and other animals. Thus, water was not only channelized, stored, carried over long distances but also distributed among the various parts of the city.

In general, there was the stability, peace and prosperity in Jaipur during the period of Sawai Jai Singh which proves the existence of an efficient administrative system which functioned effectively there. Fixing of responsibilities of the individual officials both locally and collectively, and their check and balance by strong surveillance over the functioning of whole administrative machinery with the help of a well organized spy-system or the intelligence service, were the main factors behind effective functioning of his administrative system. The peace and stability in Jaipur, during Jai Singh’s period, was in no small measure due to the efficiency of his intelligence service, which kept fully informed about the conditions in his own expanding State and those in the vast though tottering Mughal Empire and helped him in his diplomatic dealings with the various powers, and enabled him to concentrate and devote sufficient time to his scientific pursuits.

Finally, it could be summed up without any exaggeration that the foundation of Jaipur City in the early eighteenth century had a historical significance. Further, the emergence and early history of Jaipur City, beyond any doubt, indicates towards the important development at regional level in the fields of economy, political stability and sciences, while in the wider scenario, there was general decline and decay at central level in the eighteenth century Mughal Empire.