

**THE ISLAMIA COLLEGE BUILDINGS
PESHAWAR:
AN ANALYSIS OF THEIR
ARCHITECTURAL AND DECORATIVE
FEATURES**



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FEATURES**



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CERTIFICATE OF APPROVAL

This dissertation title “The Islamia College Buildings Peshawar: An Analysis of Their Architectural And Decorative Features” submitted to the University of Peshawar by Imrana Seemi is hereby approved and recommended as partial fulfillment for the award of Degree of Doctor of Philosophy in Home Economics (Art And Design).

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Dedicated to
My Parents

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ABSTRACT

Peshawar city is one of the oldest cities of the subcontinent, previously known as the queen city of South Asia possessing marvelous past with rich history and enthralling cultural traditions. Allah has gifted the region with beautiful lakes, rivers forest and mountains giving way to other areas through different passes. Among them the famous Khyber Pass has played a vital role as a gateway to the subcontinent for invading armies and trading caravans between Central Asia and South Asia since long time.

Sub-Continent was invaded by several European invaders which resulted in colonization. This colonization of the Sub-Continent basically influenced the cultural life of the native people in all respect and had many positive and negative impacts on the Sub-Continent. Modern technology, communication systems and better living standards were introduced, but it also led to dependency on Britain and supremacy of the rulers. Along with other influences it affected the architectural style throughout the Sub-Continent. The British rulers added numerous types of buildings like bridges, post office, churches, memorials, hospital, residential and official buildings and educational institutions. Same types of structures were also erected in Peshawar.

Islamia College is one of the oldest educational institutions located in the western part of Peshawar founded by Nawab Sir Sahibzada Abdul Qayyum and Sir George Roos-Keppl in October 1913. The Architectural manner of the building is a blend of Islamic Mughal style combined with typical Curzonean touches. The building with its magnetic structure, embedded by domes, kiosks topped with cupolas and crowing pinnacles and finials, creates a wondering eyes catching site. Darul-Ulum-i-Islamia “Islamia College” now Islamia College University does not merely symbolize a towering building but is a repository of the Muslim’s struggle for independence especially in the Khyber Pakhtunkhwa, against the prolonged foreign dominance.

The layout was designed in symmetrical order, which reflects the Muslim architecture merged with some Gothic features. The institution was provided with all the facilities

such as a mosque, library, administration center, hostels, residences, quarters for staff, play grounds and a market as well. The main building has a hall (known as Roos Keppel Hall), fronted on south by a porch having a rectangular clock tower topped by a dome. The parapet of the hall lying between the domes compositions is marked with molded band and balustrade in the form of ring shape marlins. The main building of Islamia College is heavily decorated with different styles of eaves and brackets. The bricked walls of the building give strong impression of solidness and strength. Rectangular and octagonal shaped columns, pointed, cusped and round shaped arches are main focal component of Islamia College architecture. Well-ventilated class rooms and administrative offices are provided with pointed and ellipse shape doors, windows and ventilators. Simple bricks and steel beams ceilings are used in buildings.

The Islamia College buildings have well planned water shoot system. The Islamia College buildings are provided with different types of grill in metal and terracotta. Geometrical and floral design motifs are used in Islamia College buildings.

During the last century the existence Islamia College has served the people and has gifted enormous benefits to the general mass regarding education. The social benefits that the people will derive from the existence of this prestigious educational institute cannot be evaluated in figures. It may be rationally and vigorously concluded that this center of educational hub will continue to serve the community and is bound to remain a centre of attraction as a proud and rewarding monument of history, a landmark in the urban scale for many more years to come.

Architecture of Islamia College represents uninterrupted living tradition existing in architecture of sub continent during the period of British raj connecting present and the past. More emphasis is given to the volume and symmetry with strong attention to intricate details. It represent a blend of Mughal and Gothic architecture. This made the Islamia College buildings more articulate, graceful and temporal. The architectural design became landmark in the history of Peshawar.

Islamia College Peshawar is important as it has gone through a long historical period of 100 years and has now recently been declared as national heritage of Pakistan. Due to the requirements and changing academic environment, most parts of the old buildings

are subject to frequent maintenance and renovation that has affected the originality and beauty of the structure. The research presents various aspects of the buildings in relation to architecture. It will open new vistas for further research on the other parts of the building.

CONTENTS

Acknowledgements	i
Abstract	iii
Contents	vi
List of Tables	ix
List of Figures	x
List of Plates	xii
 Chapter 1: Introduction	 1
1.1 Geographical Location of Khyber Pakhtunkhwa	1
1.2 Historical Background of Peshawar City	4
1.3 The Colonial Period	8
1.4 Architecture of Colonial Period	10
1.4.1 Gothic Period Architecture	10
1.4.2 Mughal Period	12
1.5 Present Research	18
1.6 Aims and Objectives	19
1.7 Research Methodology	20
 Chapter 2: History and State of Research on Colonial Architecture in South Asia	 22
 Chapter 3: Architectural History of Peshawar	 32
3.1 Important Historical Buildings of Peshawar	32
3.1.1 Buddhist Monuments in Peshawar	33
3.1.2 Sikh Monuments	33
3.1.3 Muslim Monuments	33
3.2 Colonial Buildings of Peshawar	34
 Chapter 4: Islamia College Peshawar Buildings: Classification and	 55

	Description	
4.1	History of Islamia College	55
	4.1.1 Founders of Islamia College	57
	4.1.2 Funding For College Building	58
	4.1.3 Site of the College	59
	4.1.4 Quaid-e-Azam's Visit	60
4.2	Buildings of Islamia College	62
	4.2.1 Academic Block	67
	4.2.2 Residential Unit	81
	4.2.3 Mosque	85
	4.2.4 Islamia Collegiate School Building	89
	4.2.5 College Library	90
	4.2.6 Recreation Center	93
	4.2.7 Khyber House	93
	Chapter 5: Architectural Elements of the College Building	96
5.1	Walls	96
	5.1.1 Walls in Islamia College Buildings	97
5.2	Floor	100
	5.2.1 Floors in Islamia College Buildings	103
5.3	Doors	107
	5.3.1 Types of Doors	107
	5.3.2 History of Doors	109
	5.3.3 Door Styles in Islamia College Buildings	109
5.4	Windows	113
	5.4.1 Types of Windows	114
	5.4.2 Windows in Islamia College Buildings	116
5.5	Ventilators	123
	5.5.1 Ventilators in Islamia College Buildings	125
5.6	Ceilings	129
	5.6.1 Types of Ceilings	130
	5.6.2 Ceilings in Islamia College Buildings	131
5.7	Columns/ Pillars	133

5.7.1	Columns in Islamia College Buildings	134
5.8	Domes	139
5.8.1	Types of Domes	140
5.8.2	Dome and Chattrus in Islamia College Buildings	142
5.9	Arches	146
5.9.1	Types of Arches	147
5.9.2	Arches in Islamia College Buildings	148
5.10	Stair Cases	153
5.10.1	Types of Staircase	153
5.10.2	Stair Cases in Islamia College Buildings	154
Chapter 6: Decorative Elements of the College Buildings		157
6.1	Eaves and Brackets	157
6.1.1	Eaves and Brackets in Islamia College	157
6.2	Parapets	159
6.2.1	Parapets in Islamia College Buildings	159
6.3	Water Shoots	163
6.3.1	Water shoots in Islamia College Buildings	163
6.4	Grills/Jali/Railings	166
6.4.1	Grills/Jali/Railing work in Islamia College	167
6.5	Dado Level	171
6.6	Brick Work	172
6.6.1	Brick designs of Islamia College Buildings	173
Chapter 7: Decorative Designs		178
7.1	Types of Design Motifs	178
7.1.1	Geometric Designs	179
7.1.2	Floral Designs in Islamia College	183
Chapter 8: Analysis and Conclusion		186
8.1	Analysis	186
8.2	Conclusion	191
References		203

LIST OF TABLES

Table 1:	Sizes of Rooms and No of Doors and Windows.	71
Table 2:	Windows used in different Areas.	117
Table 3:	Arch Style Used in Different Areas of Islamia College Buildings.	148
Table 4:	Brick Designs Used in Building Elements of Islamia College.	175

LIST OF FIGURES

Figure 1:	Location Map of the Khyber Pakhtunkhwa Province.	2
Figure 2:	Map showing the wall city of Peshawar with gateways (after Dani).	5
Figure 3:	Map of Peshawar Cantonment areas (after Imran Rashid, 2002).	7
Figure 4:	General lay out of the Islamia College Buildings Peshawar. (after Lal Baha).	64
Figure 5:	Islamia College Peshawar, lay-out of the main Building.	68

LIST OF PLATES

Plate 1:	Peshawar, a general view of St. John's Church.	36
Plate 2:	Peshawar, a general view of All Saints Church.	37
Plate 3:	Peshawar, entrance of the British Period Christian Cemetery in Cantt.	38
Plate 4a:	Peshawar, an old view of Hasting Memorial (Chowk Yadgar).	39
Plate 4b:	Peshawar, an old view of Hasting Memorial (Chowk Yadgar).	39
Plate 4c:	Peshawar, a new view of Hasting Memorial (Chowk Yadgar).	40
Plate 5:	Peshawar, a view of Cunningham Clock Tower.	41
Plate 6:	Peshawar, a general view of Mackenson Memorial.	42
Plate 7:	Peshawar, a general view of Victoria Memorial Hall/Peshawar Museum.	42
Plate 8:	Peshawar, a general view of the Edwardes Mission School.	44
Plate 9:	Peshawar, a general view of the Edwardes College.	45
Plate 10:	Peshawar, a general view of the Darul-Ulum Islamia/Islamia College.	46
Plate 11:	Peshawar, a general view of the Lady Reading Hospital.	47
Plate 12:	Peshawar, a general view of the Safari Train Service.	50
Plate 13:	Peshawar, a general view of the Railway Station.	50
Plate 14:	Peshawar, a general view of Balahisar (Headquarter Frontier Corps).	52
Plate 15:	Peshawar, a general view of the Governor House.	52
Plate 16:	Peshawar, a general view of the old Deans Hotel.	53
Plate 17:	Peshawar, a general view of the Fire Brigade.	54
Plate 18:	Islamia College Peshawar, main façade.	65
Plate 19:	Islamia College Peshawar, Clock Tower.	66
Plate 20:	Islamia College Peshawar, beauty of arches.	66
Plate 21:	Islamia College Peshawar, Back facade with insigia wall.	67
Plate 22:	Islamia College Peshawar, enclosed verandah facing east side.	72
Plate 23:	Roos Keppel Hall.	73

Plate 24:	Islamia College Peshawar, entrance of Roos Keppel Hall.	74
Plate 25:	Islamia College Peshawar, decorated capital.	75
Plate 26:	Islamia College Peshawar, supportive columns for gallery.	75
Plate 27:	Islamia College Peshawar, screwed column for hall gallery.	76
Plate 28:	Islamia College Peshawar, fire place with marble base.	76
Plate 29:	Islamia College Peshawar, wooden floors in Roos Keppel Hall.	77
Plate 30:	Islamia College Peshawar, enclosed chamber for gallery stairs.	77
Plate 31:	Islamia College Peshawar, stairs for gallery.	77
Plate 32:	Islamia College Peshawar, brackets for the support of gallery in Roos Keppel Hall.	78
Plate 33:	Islamia College Peshawar, grill for the gallery in Roos Keppel Hall.	78
Plate 34:	Islamia College Peshawar, ventilator in stair room.	79
Plate 35:	Islamia College Peshawar, Residential area.	80
Plate 36:	Islamia College Peshawar, corridor in residential area.	81
Plate 37:	Islamia College Peshawar, wooden stair case in residential area.	81
Plate 38:	Islamia College Peshawar, hostel buildings.	82
Plate 39:	Islamia College Peshawar, inner plan of the hostel.	83
Plate 40a:	Islamia College Peshawar, jharoka window of the hostel (Outer View)	83
Plate 40b:	Islamia College Peshawar, jahroka window of the hostel (Inner View)	83
Plate 41:	Islamia College Peshawar, semi circle arches.	85
Plate 42:	Islamia College Peshawar, Mosque.	86
Plate 43:	Islamia College Peshawar, geometric motif in Mosque.	87
Plate 44:	Islamia College Peshawar, interior hall area (Group of doors and windows).	87
Plate 45:	Islamia College Peshawar, inverted lotus flower and finels.	88
Plate 46:	Islamia College Peshawar, mosque decoration.	88
Plate 47:	Islamia College Peshawar, Collegiate School.	90
Plate 48:	Islamia College Peshawar, College Library.	90
Plate 49:	Islamia College Peshawar, running merlons, parapet and insignia slab.	91
Plate 50:	Islamia College Peshawar, niche in Library wall.	92

Plate 51:	Islamia College Peshawar, water shoots in Islamia College.	92
Plate 52:	Islamia College Peshawar, Recreational Center.	93
Plate 53:	Islamia College Peshawar, Khyber House.	94
Plate 54:	Islamia College Peshawar, verandah in Khyber House.	94
Plate 55:	Islamia College Peshawar, a wall.	98
Plate 56:	Islamia College Peshawar, brick work of exterior wall.	99
Plate 57:	Islamia College Peshawar, interior wall of Roos Keppel Hall.	100
Plate 58:	Islamia College Peshawar, checkerboard floor in front of Roos Keppel Hall.	103
Plate 59:	Islamia College Peshawar, marble floor of side verandahs of Roos Keppel Hall.	104
Plate 60:	Islamia College Peshawar, verandah floors.	104
Plate 61:	Islamia College Peshawar, floor in Roos Keppel Hall.	104
Plate 62:	Islamia College Peshawar, brick floors in other areas.	105
Plate 63:	Islamia College Peshawar, hexagonal floor tiles.	106
Plate 64:	Islamia College Peshawar, brick floors in hostels.	106
Plate 65:	Islamia College Peshawar, floors in hostel.	107
Plate 66:	Islamia College Peshawar, door for stair case chamber for gallery.	110
Plate 67:	Islamia Collegiate School, a door.	111
Plate 68:	Islamia College Peshawar, main entrance of Mosque.	112
Plate 69:	Islamia College Peshawar, doors with wire gauze.	112
Plate 70:	Islamia College Peshawar, arched windows in Roos Keppel Hall.	118
Plate 71:	Islamia College Peshawar, two part arched window in Roos Keppel Hall.	118
Plate 72:	Islamia College Peshawar, arched windows in other places.	118
Plate 73:	Islamia College Peshawar, decorative window with fret work.	119
Plate 74:	Islamia College Peshawar, rectangular window in class room.	120
Plate 75:	Islamia College Peshawar, window in class room with grill.	121
Plate 76:	Islamia College Peshawar, ellipse shaped windows.	121
Plate 77:	Islamia College Peshawar, later addition supplementary windows added to verandah.	122

Plate 78a:	Islamia College Peshawar, ventilator in Roos Keppel Hall. (Inner View)	126
Plate 78b:	Islamia College Peshawar, ventilator in Roos Keppel Hall.(Outer View)	126
Plate 79:	Islamia College Peshawar, arch-shaped in D shaped ventilator. (Outer View)	127
Plate 80:	Islamia College Peshawar, rectangular shaped ventilator in class room.	127
Plate 81:	Islamia College Peshawar, rectangular shaped ventilator covered with wire gauze.	128
Plate 82:	Islamia College Peshawar, ellipse shaped ventilator.	128
Plate 83:	Islamia College Peshawar, fret work ventilator.	129
Plate 84:	Islamia College Peshawar, the ceilings.	132
Plate 85:	Islamia College Peshawar, ceilings in Roos Keppel Hall.	132
Plate 86:	Islamia College Peshawar, square-shaped columns.	135
Plate 87:	Islamia College Peshawar, columns/buttresses in the building.	135
Plate 88:	Islamia College Peshawar, octagonal columns in college building.	136
Plate 89a:	Islamia College Peshawar, columns in Roos Keppel Hall.	137
Plate 89b:	Islamia College Peshawar, columns in Roos Keppel Hall.	137
Plate 89c:	Islamia College Peshawar, columns in Roos Keppel Hall.	137
Plate 90:	Islamia College Peshawar, columns repetition with blind arches in Roos Keppel Hall.	138
Plate 91:	Islamia Collegiate School Peshawar, plastered window frame.	138
Plate 92a:	Islamia College Peshawar, domes with Clock Tower.	142
Plate 92b:	Islamia College Peshawar, side view of main Clock Tower dome.	143
Plate 93:	Islamia College Peshawar, aerial view of domes.	143
Plate 94:	Islamia College Peshawar, chattrus embellished with arches and brick work.	144
Plate 95:	Islamia College Peshawar, dome with cut brick work.	144
Plate 96:	Islamia College Peshawar, octagonal shaped turrets.	145
Plate 97:	Islamia College Peshawar, inner portion of dome.	145
Plate 98:	Islamia College Peshawar, ogee arch in college.	149

Plate 99:	Islamia College Peshawar, cusped/scalloped arches in upper and lower storey of college building.	150
Plate 100:	Islamia College Peshawar, arched porch.	151
Plate 101:	Islamia College Peshawar, arches facing south in main porch.	151
Plate 102:	Islamia College Peshawar, stair case for gallery in Roos Keppel Hall.	154
Plate 103a:	Islamia College Peshawar, wooden stage and steps inside Roos Keppel Hall.	155
Plate 103b:	Islamia College Peshawar, stairs on three sides of stage in Roos Keppel Hall.	155
Plate 104:	Islamia College Peshawar, stairs leading to verandah.	156
Plate 105:	Islamia College Peshawar, stair case in hostels.	156
Plate 107:	Islamia College Peshawar, spiky leaf style.	158
Plate 108:	Islamia College Peshawar, leaf with pitcher style.	158
Plate 109:	Islamia College Peshawar, bracket in Roos Keppel Hall.	159
Plate 110:	Islamia College Peshawar, curvilinear triangle mirlons.	160
Plate 111:	Islamia College Peshawar, quatrefoil parapet decorated with round crenel or embrasure.	160
Plate 112:	Islamia College Peshawar, vase style parapet.	160
Plate 113:	Islamia College Peshawar, perforated style parapets.	161
Plate 114:	Islamia College Peshawar, panel style parapet wall in residential area.	161
Plate 115a:	Islamia College Peshawar, parapet in Mosque (First Step).	162
Plate 115b:	Islamia College Peshawar, parapet in Mosque (Second Step).	162
Plate 115c:	Islamia College Peshawar, parapet in Mosque (Third Step).	162
Plate 116:	Islamia College Peshawar, water shoots.	163
Plate 117:	Islamia College Peshawar, water shoots.	163
Plate 118:	Islamia College Peshawar, water shoot in upper terrace of College Library.	164
Plate 119:	Islamia College Peshawar, gargoyles on tapering brick panel.	164
Plate 120:	Islamia College Peshawar, water shoot in Collegiate School.	165
Plate 121:	Islamia College Peshawar, railing in upper terrace of college building.	167
Plate 122:	Islamia College Peshawar, window with fret work.	168

Plate 123:	Islamia College Peshawar, fret work ventilator in sunk panel.	168
Plate 124:	Islamia College Peshawar, railing on front porch.	169
Plate 125:	Islamia College Peshawar, fret work in front porch.	169
Plate 126a:	Islamia College Peshawar, floral grill in front verandah.	169
Plate 126b:	Islamia College Peshawar, floral grill in front verandah.	170
Plate 127:	Islamia College Peshawar, geometrical designed grill in gallery of Roos Keppel Hall.	170
Plate 128:	Islamia College Peshawar, metal grill in class rooms.	171
Plate 129:	Islamia College Peshawar, metal grill in offices.	171
Plate 130:	Islamia College Peshawar, saw tooth brick pattern.	173
Plate 131:	Islamia College Peshawar, header and stretcher brick laying.	174
Plate 132:	Islamia College Peshawar, triangle shaped brick cut.	174
Plate 133:	Islamia College Peshawar, diamond shape brick cut.	174
Plate 134:	Islamia College Peshawar, cut and dressed brick shapes used in decorative windows.	176
Plate 135a:	Islamia College Peshawar, basket weave brick laying on floor.	176
Plate 135b:	Islamia College Peshawar, herringbone brick laying pattern on floor.	176
Plate 136:	Islamia College Peshawar, hexagon style brick for floors.	177
Plate 137:	Islamia College Peshawar, vertical lines in the columns of Roos Keppel Hall.	180
Plate 138:	Islamia College Peshawar, horizontal bands running along with the ceiling in Roos Keppel Hall.	180
Plate 139:	Islamia College Peshawar, transverse lines in the ceiling of Roos Keppel Hall.	181
Plate 140:	Islamia College Peshawar, geometric pattern of grill in Roos Keppel Hall.	181
Plate 141:	Islamia College Peshawar, geometric design in painting Mosque.	182
Plate 142:	Islamia College Peshawar, floral motif in column of Roos Keppel Hall.	183
Plate 143:	Islamia College Peshawar, floral design in Mosque.	184
Plate 144a:	Islamia College Peshawar, floral motif in Mosque.	185
Plate 144b:	Islamia College Peshawar, calligraphy and floral motif in Mosque.	185

Chapter 1

INTRODUCTION

1.1 GEOGRAPHICAL LOCATION OF KHYBER PAKHTUNKHWA

Pakistan is situated in South Asia and is at the intersection of Central Asia and Middle East, which gives its location great significance. Covering an area of 803,904 km² Pakistan (Encyclopedia of World Geography) has administratively been divided into four provinces: Baluchistan, Punjab, Sind and Khyber Pakhtunkhwa (Amin et al., 1987). Each province has a distinct culture along with archeological and natural resources.

The Khyber Pakhtunkhwa has some remarkable natural resources in the mountainous regions and green valleys with attractive rivers, marvelous waterfalls enthralling lakes and dense forests due to its geographical location (Jaffer, 1946). The province has been a convergence of different civilizations which once flourished and later vanished with the passage of time.

The region of Khyber Pakhtunkhwa North Latitude is situated between 31⁰ and 36⁰ and East longitude between 69⁰ and 74⁰. The total area of the province is approximately (74,521 square km).¹ Geographically on the north of the province lie the mountains of Hindu Kush and Himalayas, in the south, Baluchistan Province and Dera Ghazi Khan the district of Punjab Province, in the east Punjab and Kashmir while in the west is Afghanistan (Dani, 1995) (Figure 1).

¹ <http://www.britannica.com>.



Figure 1: Location Map of the Khyber Pakhtunkhwa Province.

Due to its location in the north-western part of the country Khyber Pakhtunkhwa was previously known as North West Frontier Province, (N.W.O.F.P.) Khyber Pakhtunkhwa is placed on the Iranian plateau and consists of the intersection where the slopes of the Hindu Kush Mountains on the Eurasian plates provide approach to the Indus-watered hills approaching South Asia. The topography of the region diverges in the north with thick forest and green land and in the south with dry rocky area. The region has been gifted with beautiful lakes like Saif-ul-Maluk, Satpara and Kachura. The weather can be intense with humid summers to chill winters.²

² ["Extremes of Peshawar". Pakistan Meteorological Department.](#) Retrieved February 2, 2015.

The northern section of Khyber Pakhtunkhwa passes through difficult mountainous regions. There are passes in the central part of Hindu Kush to provide link between Afghanistan and Pakistan. Most famous of these passes are Khyber Pass and Bolan Pass (Eraly, 2004). Along with that some other important passes are Gomal and Lawari pass in the territory of Khyber Pakhtunkhwa along with Kurram and Tochi and Nawagai pass in FATA region (Kazi, 1969). The Khyber pass and Nawagai pass, have played a vital role of a gateway to the Subcontinent for invading armies and trading caravans between Central Asia and South Asia since long time (Qudus, 1990). The Khyber Pass is 56 km long. An extended way of 40 km. runs in the territory of Pakistan and remaining 16 km. in Afghanistan. Alexander of Macedon is said to have entered the Indus region in 326 BC through Nawagai Pass (Dani, 1995). The valley has five rivers moving roughly from North to South and come into monsoon belt. In the center of the region is Kabul River which intersects the province from east to west and drains into River Indus. In its lower course lies the valley of Peshawar. The province consists of twenty five-districts, comprised of five Provincially Administered Tribal Areas (PATA)³. Previously there were 24 districts but now Tor Ghar is added as a new district. The districts are: Abbottabad, Bannu, Buner, Battagram, Chitral, Charsada, Dera Ismail Khan, Haripur, Hangu, Kohistan, Kohat, Karak, Kohistan, Lower Dir, Laki Marwat, Mardan, Mansehra, Malakand, Nowshera, Peshawar, Sawabi, Swat, Shangla, Tank, Upper Dir and Tor Ghar.

There are two political divisions of the province with an area of 13,149 square mile administered districts of Peshawar, Kohat, Hazara, Dera Ismail Khan and Bannu and the tribal territory with an area of 25,500 square mile with five Political Agencies: the Malakand, the Kurram, the Khyber, Northern and Southern Waziristan and five tribal areas (Lal Baha, 1978).

Temperature of Khyber Pakhtunkhwa is extreme in different parts of the province. It is extremely hot in Dera Ismail Khan the southern district of the province. While in the mountains to the north the temperature in the summer is hot and intensely cold in winter.

The Provincial headquarter of Khyber Pakhtunkhwa is Peshawar which is connected to the other cities of Pakistan by Grand Trunk Road, Railway and Airways (Khan, 2008).

³ https://en.wikipedia.org/wiki/Provincially_Administered_Tribal_Areas

The Peshawar plain is a sanctuary hemmed in on three sides by the mountains and opening on the forth side to the Potwar upland on East (Dani, 1995). It is norished by the river Kabul which emerges from the mountains in the shallow ravine at the Warsak and flowing eastward, joins the Indus River near Attock (Kazi, 1969). Kabul, Swat, Chitral, Kunar, Siran, Panjgora, Bara, Kurram, Dor, Haroo, Gomal and Zhob are the major rivers that criss-cross the province.

1.2 HISTORICAL BACKGROUND OF PESHAWAR CITY

Since early historic times Peshawar has been the gateway of trade and interaction between Central Asia Afghanistan and Pakistan. The city has changed many faces with the passage of time. Peshawar district today can be roughly divided into following eight areas with distinctive characteristics:

- a) **The Walled City:** The oldest and historical part is the walled city of Peshawar. This wall surrounded the residential area of the city occupied by common man. This old city meet the customary Central Asian idea of a high sanctuary control line between the widely-scattered houses of the majority of people (Shah, 2009). The area of the city must have different in ancient times. But the shelter is most definitely noticeable by Bala Hisar that still garlands the main point of the city. Throughout the Sikh period General Avitabile, the Sikh Governor enclosed it with unburned brick wall 20 ft. in height (Dani, 1995) which surrounded the city. Later under the British rule this surrounding wall was rebuilt by bricks (N-W.F.P Gazetteer, Peshawar, 1931). The wall even now exists in many places though modern houses have also integrated segments of the walls or are assembled tight over them. Many of the old gates are restored in recent years and a few of them even bear the date. Sixteen gates were originally added to the wall providing access to the city (Figure 2).

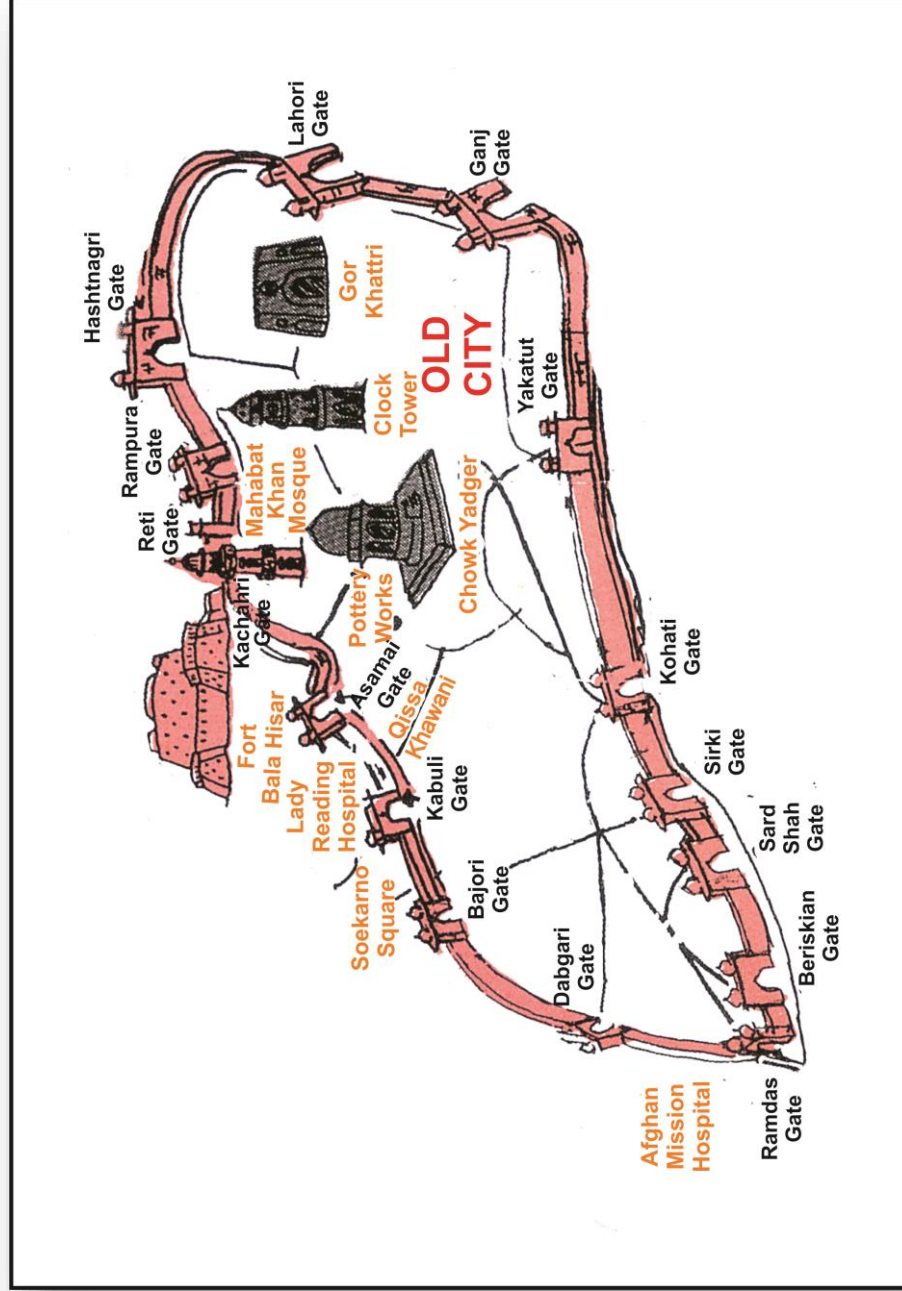


Figure 2: Map showing the wall city of Peshawar with gateways (after Dani).

The old wall still move along the city gates, some of which are restored and some removed, marking the boundary of the pre-British city (Sabir, 1966). The gateways are named (clockwise) as: Kabuli, Andar Shahr (Asamai), Kachehri (Tangsali), Reti, Rampura, Hashtnagari, Lahori Ganj Ekkatut, Kohati Saraki Sard Chah, Sar Asiya (or Tabiban) Ramdas, Dabgari Bajauri Darwaza (N-W.F.P Gazetteer, Peshawar, 1931).

- b) **The Cantonment Area:** The Britishers founded the cantonment area in 1849 A.D. to the Northwest of the city. The area was built with proper road system, military establishment, governor house, museum, residential, as well as commercial area (Figure 3).
- c) **The Early 20th century expansion around the city:** This expansion includes Sikandarpura, Nishterabad, Gulbahar in the north east and Dabgari Garden in the west. All these expansions are around the old-walled city of Peshawar.
- d) **The Radial Road Expansion:** This expansion of the city is along the roads from Peshawar city in all the directions. In the south the expansion is on the main road, the walled city, circular road, the Grand Trunk road, Jamrud road and the entire Kohat road, the Bara Road the Charsada road, the Dilazak road, the Phandu road and Hazarkhuwani road. This growth began around the walled city and is still expanding. The infill wings between these roads have also incorporated traditional rural villages into urban structures.
- e) **The Traditional Villages:** The traditional villages include Hassan Ghari, Nouthia, Dehri Baghban, Nawan Killi, Tehkal Payan, Tehkal Bala, and Landi Arbab these villages now have been incorporated in the city.
- f) **University Campus:** North of the Jamrud road leads to the leading educational institutions like Islamia College, Peshawar University, Agriculture University, Khyber Medical University, Engineering University, PCSIR laboratory and Forest Institute Pakistan.

[illegible][illegible][illegible][illegible]

- g) University Town:** The university town is located to the west of Peshawar Cantonment and South of Jamrud road. It is a low density high-class residential area. Many guest houses, educational institutions and hospitals are located in the town area.
- h) Hayatabad Township:** Towards the west of Peshawar in 1970 a satellite town was planned by Peshawar Development Authority. This township was named after Hayat Sherpao, late Governor of Khyber Pakhtunkhwa. Primarily it was a residential area but now used by various Industries it is also called as “Industrial Estate.” It has been divided into seven phases while each phase is further divided into sectors. The area can be approached via Jamrud road and Ring road. It is close to Khyber Agency which leads to Khyber Pass.

1.3 THE COLONIAL PERIOD

The term colonialism is a broad conception that refers to the mission of European political dominance from sixteenth to twentieth century (Stanford Encyclopedia of Philosophy, 2006). Colonialism is a practice of supremacy, which entails the suppression of one people to another. Human cultivations have sent their citizens to far-flung lands, to create new ways in distant communities. Often in this practice, one society sought to rule another, expanding economical, political, and some time even social pressure over another people. This settlement was so common and dominating pattern in human history, that very common term colonialism rarely came to indicate any sort of domination or claim of control by one group over another, often attained by trickery and usually involving unlawful means (Page and Sonnenburg, 2003). The word colony comes from the Latin word *colonus*, meaning farmer (Stanford Encyclopedia of Philosophy, 2006). This source reminds us that the exercise of colonialism normally elaborate the repositioning of inhabitants to a new land, where the arrivals exist as enduring immigrants while sustaining political commitment to their country of root.

History is full of examples of societies steadily growing by integrating neighboring regions and settling its people on newly dominated territories. The most famous examples are of ancient Greeks who set up colonies as did the Moors, the Romans, and the Ottomans.

Colonialism, then, is not constrained to a particular place or time. However, colonialism has changed determinedly in the sixteenth century since the technological advancement in routing that create to link more distant parts of the world (Metcalf, 1982). Fast marine ships made it possible to contact far-flung seaports and to maintain close ties connecting the hub and settlements. As a result the prevailing European colonial mission appeared when it became feasible to shift considerable numbers of people and equipment crossways the sea and to uphold political power in spite of geographical distribution. This access uses the phrase “colonialism” to explain the progression of European settlement and political power above the rest of the world, comprised of America, Australia, and parts of Africa and Asia.

The Sub-Continent was invaded by several European invaders which resulted in colonization. The colonization of the Sub-Continent mainly influenced the social life of the local people in all matters. English was the authorized language of the new rulers. European style and manners became the role model for the privileged classes. Telegraph, telephone, railways shrank distances which altered the idea of communication and traveling in the region. This colonization had numerous positive and negative effects on the region. New approaches, and improved communication method raised the living standards, but it also guide to reliance on Britain and dominance of their rulers.

Around 1800, the British had successfully colonized the majority of South Asia. British existence in mainland South Asia started with the British East India Company (Minesand and Lamb, 2010). The British arrived at the Sub-continent and ruled from 1757 to 1947 (Driks, 1992). Their bequest still remains through buildings and infrastructure that occupy their earlier colonies. The grandeur, the superiority, the impression of sovereignty supreme, all this the British transmitted into the buildings they erected in the Sub-continent. The colonial architectural style in Sub-Continent completely articulated the spirit of inhabits not only to rule, evangelize, or exploit another but to adapt itself to unfamiliar conditions topography overall unlike its own. It was because of the British expertise of system that they had an kingdom in Sub-continent at all.⁴

⁴ <http://www.culturalindia.net/indian-architecture/colonial-architecture.html>

1.4 ARCHITECTURE OF COLONIAL PERIOD

The architectural style is the representation of the features that make a building structure prominent and historically identifiable. It may comprise elements as shapes, form, construction methods, materials and regional characters. The emergence of new ideas, use of materials, technology, and religious beliefs make new styles possible and later on all these classify the chronology of architecture.⁵ At the same time several manners may be fashionable. These styles often spread from one place to another, so that the style at its source keep on expanding in new ways as other countries follow with their own blend of culture and religious beliefs. Architects adapt new ideas with modification.

Each architectural style is based upon some basic principles springing from its adjoining civilization, which suffer succeeding progress until it either attains perfection or its possibilities are pooped after which a period of decline usually sets in. As a reaction introduction of some radically new principle leading to the evolution of a novel style is followed. The colonial period in the Sub-Continent opened a new chapter of architecture.⁶ The colonial architecture in the Sub-Continent followed expansion not only from Western architectural manner but also took inspiration from existing architecture in the region. Gradually architecture combined the features of Hindu, Islamic and western elements.⁷

1.4.1 Gothic Period Architecture

Gothic is an expression used to signify in general and distinguish from the antique those modes or styles in which our religious and domestic edifices of the middle ages were built. It was one of the most influential styles. A wide variety of religious, civic and domestic buildings were built and furnished in this style. The History of Gothic architecture progressed over a period of 300 years between the periods of 1200 to 1500 (Hendrix, 2012). The outcome was dazzling and well-ventilated interiors and elevated spaces. The perpendicular using pointed arches, spires and pinnacles were the focal

⁵ <http://archpresspk.com/new-version/Historiography-Architecture.html>

⁶ <http://www.culturopedia.com/Architecture/colonialarchitecture.html>

⁷ http://www.indianetzone.com/38/colonial_architectural_style_india.htm

point. Stone work carvings and ornamental decoration was more emphasized. This architectural style spread all over Europe.

An English architect Rickman used three phased Gothic architecture terminology in his book. Each of the three phases (Hendrix, 2012) of Gothic architecture has a distinctive characteristic. These phases of the Gothic architecture are:

- a) Early English Gothic Manner: 1200 to 1300
- b) Decorative Gothic Manner: 1300 to 1400
- c) Perpendicular Gothic Manner: 1400 to 1500

a) Prominent Features of Gothic Architecture:

In Early English Gothic Style 1200 to 1300 architecture had the following characteristics:

- use of accurately cut stones.
- replacement of hollow walls with solid walls and pillars.
- prominent height and use of pointed arch as pointed arch could support greater weight and help reduce the thickness of wall
- wider window openings
- flying buttresses were introduced which helped in distribution of weight on wall.
- slender towers overcame the massive towers.
- sculptured stone waterspouts (Gargoyles) were introduced for rain water.

b) Decorative Gothic Style - 1300 to 1400 had the following characteristics:

- The wider windows were decorated and ornamented with tracery.
- Gothic Rose windows were added to the architecture.
- Stain glasses were used in these windows and they became the major source of light entry.

c) Perpendicular Gothic Style - 1400 to 1500 had the following characteristics:

- Use of Hammer beam roofs.
- Fan vaulting were introduced.
- More decorative designs were used in architecture.(Ching, 2012)

1.4.2 Mughal Period

Mughal architecture is the idiosyncratic Indo-Islamic architectural manner that developed in Indian Subcontinent under the support of Mughal emperors from 16th to the 18th century. The Mughal rulers were renowned for creating beautiful gardens in the Persian *charbagh* layout, in which the parallelogram gardens were separated by paths or flowing water into four smaller parts. Mughal architecture in itself is an extraordinarily balanced and decorative combination of Turkish, Persian and Indian architecture (Nath, 1997). It first developed and flourished during the reign of Akbar the Great. Mughal architecture attained its climax in maturity and delicacy to detail under emperor Shah Jahan and declined after the death of emperor Aurangzeb.

Prominent Features of Mughal Architecture

- Mughal building styles exhibit flawless consideration to symmetry of the buildings.
- On each side of the buildings same number of minarets, arches and pillars are common. Even gardens are often planned in a similar manner, creating a mirror like effect. The Mughals used duplicate facades, each with a large arch-shaped doorway.
- The distinctive motifs of Islamic architecture are radiating structures, repetition, and rhythmic patterns.
- Geometrical pattern, especially for mosques and palaces has been a key utility.
- Columns employed as piers, and arches, structured and interlace with asymmetrical progression of niches and colonnades.
- Domes in Islamic architecture have a dominant role and are decorated with lotus flower design.
- *Chatrus* were constructed for decorative purposes.
- Iwans or vaulted space, (spaces enclosed by three walls and an opening) were frequently used as Mughal feature.
- Spacious gardens were especially erected as *char bagh* in all the prominent buildings.
- Fountains or pools were also important features to the Mughal buildings.
- Carvings and decorations were sometimes inlaid with semi-precious stone decorations and looked like stems of flowers.
- Materials used both for the secular or religious structures are mainly red stone, or marble for building.
- The decoration was mostly carved Arabesques or Geometrical designs.
- Use of jali or fret work was another decorative feature added to the buildings.

- The buildings tended to be warm-colored. Reds, oranges, browns and maroons are predominant, as well as white, since the building materials consist of red stones and marble (Nath, 2004).

i) Mughal Architecture under Akbar

Akbar was a great patron of art and architecture and the Mughal architecture achieved maturity during his epoch. The architectural proficiency of Akbar can be witnessed from the numerous and varied remarkable edifices built by him, during his entire regime. The prominent architectural achievements during Akbar's supremacy are the palace of Agra in Fatehpur Sikri Agra, Fort in Ajmer, Jahangiri Mahal, Palace in Allahabad, House of Birbal, Jodha Bai Palace, and his own magnificent tomb (Thapar, 2004).

In principle, the monuments of Akbar period were constructed in trabeate order in large scale for depicting strength and power (Shahi, 2004). They were mostly constructed of red-sand stone. These buildings are example of co-mingling of native Indian traditions with the Central Asian architectural scheme for decorative purpose. Many of the structural elements and ornamental decorations accomplished in the indigenous style imparted to the buildings an architectural character of their own. The brackets are heavily well-decorated to support the 'chajjas'. The use of arches, articulated with series of blind niches and panels and filled with geometric motifs (Brown, 1964). Most of the buildings had canopies supported by pillars presenting an airy pavilion structure. The pillar shafts of Akbar's period were usually many-sided and with capitals in form of bracket support. The decorative work comprises artistically inlaid designs, profuse carved decorations, painted design in colors with golden touch on the internal walls and ceiling and perforated stone screen work. The buildings were also decorated with Persian calligraphy. Gardens were designed in charbagh style.

The gigantic enclosure wall of Agra fort is faced with red stone. The main entrance gate, which is known as the Delhi gate, is marvelously ornamented with white marble inlay beside the warm red sandstone (Shahi, 2004).

The capital town of Fatehpur Sikri is one of the most prominent Islamic architectural achievements of Akber's reign. The town is a great complex of palaces, residences, religious and official buildings. The Hall of Private Audience Diwan-i-Khas is impressive in its interior arrangement, which has a single gigantic column encircled by brackets sustaining a stone throne platform, from which radiate four railed balconies. The entire city of Fatehpur Sikri has been made of bulbous domes and low arches in extensive use that portray the Mughal style (Jaffer, 1936).

Another magnificent building of the Fatehpur Sikri is the Great Mosque, the Jami Masjid. The southern entry of mosque is a massive gateway called the Buland Darwaza. It gives an impression of enormous strength and height through the flight of steps by which it is approached. In the beginning Mughal mosques had immense enclosed courtyards and domed shallow halls for prayer.

Another most astral achievement of Mughal architecture under Akbar is the tomb of his father Humayun's Tomb. The mausoleum is, raised on elaborate ground plan with central octagonal chambers, connected by an archway with a graceful front elevation and surmounted by kiosks, cupolas, and pinnacles (Nath, 1997).

Akbar's tomb is a blend of Islamic style. The splendid entrance, use of delicate patterns, delicate jali work (pierced ornamental stone screens), Persian style calligraphy, the charbagh garden plan (four-quartered garden design, with the main building at the center), feature the Islamic impact. On the other hand, use of *chartrus* (small domed canopies, supported by pillars), level of airy pavilions, the absence of a dome, etc., reveal local influence.

ii) Architecture under Jahangir

Mughal Emperor Jahangir ruled from 1605 – 1627. He was fond of miniature paintings reflecting flowers and animals and least interested in architecture but still the buildings of his reign became the finest achievement of Mughal spirit as they were more Persian than Indian. Use of marble was more prominent as replacement of red sand stone (Harle, 1987). White marble was first used in tomb of Itimad-ad-Dawlah. Enameled tiles in Persian style were introduced in mosque at Lahore. The interiors

were embellished with fresco work, delicate inlay of marble, mosaic work in various colors, colorful pietra dura flowers, and calligraphic verse and carved jali screens in various patterns. Traditional arabesque and geometric designs were combined with emblematic motifs of vases with flowers, floral scrolls, drinking cups, cypress trees and imagery illustration of paradise from the Holy Quran. Towers at corners, cupolas, chatrus, and series of vaulted compartments, cusped arches and a square or octagonal pavilions canopied with dome and carved pillars were erected (*Nath, 1997*).

iii) Architecture under Shah Jahan

Shah Jahan, was the fifth Mughal Emperor of the Indian Subcontinent from 1628 to 1658. He was one of the greatest patrons of Mughal architecture and left behind a magnificent heritage of structures constructed during his reign. Shah Jahan's reign is regarded as the golden age of Indian Sub-Continent architecture.

In Shah Jahan's reign chief building material was marble. With the change of building material the technique of surface ornamentation took the form of creative inlay and multi-colored stones in marble, creating petals and stems of traditional flowers. Structurally, the style changed: pillars now had a foliated base, the curve of arches assumed a multifold shape, usually of nine foils, either tapering or many sided shafts and vaulted bracket capitals. The domes of Shah Jahan's buildings are notable for their exceptionally pleasing contour. The bulbous shaped domes are placed on a high drum.

Façade ornamentation was another significant addition to Mughal architecture and boom in later Mughal. The practice of consistency buildings entirely of marble and decorating the walls with floral patterns made of semi precious stones began (*Nath, 2004*).

The architectural approach of elegance, delicacy and purity initiated by the great Mughals reached its apex. The style of Shah Jahan's era buildings is clearly distinguishable from earlier works by the lavish use of white marble and incomparable ornamentation. Another salient feature of his structures is the open tracery which elaborates the buildings with the applicable combination of spacious designs with elegance. It can be said that Shah Jahan's period witnessed a great transition from the

forceful and vigorous architecture of Akbar's period to elegant and sober architectural pattern, lavish use of white marble and incomparable decoration of unrivaled beauty in Mughal architecture (Sharma and Gupta, 2012). The Mughal architecture attained its height under Shah Jehan.

The earlier architectural activities of Shah Jahan's reign were represented by replacements and remodeling of earlier construction in the forts of Lahore and Agra. But these were not restricted to replacements only. Along with that, new building projects also commenced side by side. The most important of which were the grand Red Fort and the glorious Jamae Mosque in Delhi. Of the existing buildings there, the more significant are the Mumtaz Mahal, the Rang Mahal, the Diwan-i-Khas, Diwan-i-Am, and the Hammam.

The Red fort is a magnificent octagonal structure encircled by massive walls, busted by intervals by boldly projecting bastions and turrets topped by domed kiosks, and entered through two main gateways, the Lahori and the Delhi Gates. The interior of Diwan-i-Khas has been ornamented with marble and Pietra-Dura work (Shahi, 2004).

The Jamae Masjid Delhi is one of the most impressive and magnificent mosques in India. The entire building is raised on a grand basement having flights of steps. The three bulbous domes with inverted lotus flower of pinnacle flanked by two lofty minarets are the source of attraction. These minarets consist of five storeys and the adjoining edifices ornamented with calligraphy.

The Moti Masjid or Pearl Mosque is perfect architectural legacy of Shah Jahan's reign in Agra Fort. The Mosque stands on ground to the north of Diwan-i-Am Complex in Agra Fort. The courtyard of the Moti Masjid has side arcades. The Mosque is roofed with three bulbous domes. There are series of domed kiosks along with the parapet built of white marble and stand on the red sandstone walls. Moti Masjid represents a typical stylistic feature of extensive white marble facing in architecture as used during the reign of Shah Jahan.

The Taj Mahal Agra is the most pleasing monument of Shah Jahan period; a marvel created in marble. The white marble minaret rising in four corners are crowned by onion

shaped domes which stand majestically at the corners of the terrace. The whole façade adds great attraction to the viewers. It represents the Islamic garden of paradise, and is widely considered as Mughal architecture's greatest attainment. The mausoleum consists of almost identical facades, each with a large arch-shaped doorway, minarets, dome and finial, smaller *chattrus* with lotus motifs to embellish the roof. The interior is lavishly decorated in inlaid technique with black marble which makes it a wonderful creation of that period. Other decorative features include abstract form, vegetable forms and calligraphy finished by stucco, paint, pietra dura work and carving. All these are splendidly ornamented with inlays of semi-precious stones forming vines and flowers and surrounded by *jali* screens (Nath and Nath, 2010).

iv) Aurangzeb and Later Mughal Architecture

Aurangzeb Alamgir's reign lasted from 1658 to 1707. Unlike his father, he was not much interested in architectural work, however, he erected lesser buildings as compared to his ancestor and the architecture is marked with a steady deterioration. During Aurangzeb's reign brick with stucco embellishment replaced squared stone and marble as the building materials of choice. Badshahi mosque, a structure built in Aurangzeb's reign is the best example of brick with red sandstone (Khan, 1991). In general, however, Mughal architecture had started to decline during Aurangzeb's reign, a progression that would speed up after his death. With the succession of Aurangzeb, the Mughal architecture style rapidly deteriorated.

1.5 PRESENT RESEARCH

Islamia College University is one of the oldest higher educational institutes in Peshawar region. The magnificent building is situated at Jamrud road the extreme end of the city. The college was established with the special proposal of Sir Sahibzada Abdul Qayyum Khan and Sir George Roos Keppel. It is one of the oldest higher education institutes in Pakistan. Its historical roots are traced back to the Aligarh University India. The Islamia College was established with a view to provide quality education to the youth of the region in different disciplines of science and humanities. The Islamia College

was granted university status by the Government of Pakistan in 2008; the word college is retained in the title for conserving its historic roots.

The architectural heritage is a distinctive source, a unique expression of the splendor and assortment of our past. Structures and places can, ultimately, acquire character and particular interest through their intrinsic prominence, continued survival and familiarity. The built legacy consists not only of enormous artistic attainments, but also of the everyday work of craftsmen. In a changing world, these buildings have a cultural impact which should be acknowledged before the buildings are lost or threatened. This inheritance should be recorded and conserved in order to pass it on to our successors.

Historic places contribute considerably to the sense of distinctiveness and well being of a city's inhabitants. The study of building style permits an insight into past traditions and periods. Behind all the admirable styles lies not an informal trend nor a style, but an era of critical and considerable experimentation proposed for reacting to the requirements of a certain way of life. Climatic conditions, available materials and skilled labor all enforce the structure of the building. All of the superior styles have been supported by the innovation of new building manners. Once developed, a manner lasts for a long period till the new styles are introduced.

The analysis of architecture of Islamia College Peshawar is important as it has gone through a long historical period of 100 years and has recently been declared as national heritage of Pakistan. It has a unique architecture. Due to the requirements and changing administration most of the areas of the old building are renovated which can cause damage to the beauty and structure. Moreover, the details of construction need to be recorded.

Islamia College University Peshawar is not only renowned for its old splendid, magnificent towering buildings but also as an educational institute which was created for Pathan Muslim community to bring an educational renaissance in the province. It has fascinating and radiant historic and oriental architecture. It reflects the glorious past and bright future.

The study of Islamia College architecture needs to be categorized into major and sub-groups. The buildings of Islamia College constructed in 1913 were categorized into: a)

academic block; classroom, hall and offices b) residential units; houses and hostels, mosque, Islamia Collegiate building, library, recreational center and Khyber house. These buildings were further studied in detail for the architectural elements such as walls, floors, doors, windows, ventilators, ceilings, columns, domes arches and stair cases. Decorative elements were also part of this study such as parapets, eaves, waters-shoots, finials, grills or railings, brackets, cut brick work and dado levels. The detailed study of decorative designs used in architecture of Islamia College was categorized into two major groups: geometric designs and floral designs. This classification was further studied in reference to the materials which were used in their construction. The architectural and decorative elements were also studied in relation to the principles and elements of art and architecture.

1.6 AIMS AND OBJECTIVES

The main aims and objectives of the current research are to:

- analyze and document the buildings of Islamia College Peshawar.
- assess the architectural details and building components of the of Islamia College Peshawar.
- evaluate the elements and principles of art and architecture in the aforesaid buildings.
- highlight the material used in the construction of the buildings; its decorative patterns/elements and structural composition etc.
- highlight the native and foreign impact on the architecture of Islamia College Peshawar
- draw a baseline of colonial architecture for future research.

1.7 RESEARCH METHODOLOGY

Although Islamia College is one of the oldest living buildings of the colonial period but unfortunately no worth mentioning information about its architecture, plan and elevation drawing etc. is available in the archives of the College/University or literary accounts. Owing to the absence of literary information about the buildings of Islamia

College, the study was started by focusing on the existing plan/structures and style of architectural features conducting field survey and scientific documentation.

The field work has been divided into three phases:

Phase I: The buildings of the College were comprehensively documented in all respects through a systematic field survey. Some of the data was collected through the official files of Islamia College and records available in the archives library. The studied material is mainly descriptive. Sketches and drawings through scientific equipments of all the important buildings were made such as total station, which was employed from the Department of Archaeology, University of Peshawar. Architectural components like doors, windows, ventilators, floors and ceilings of the buildings were measured in relation to their placement and effectiveness to rooms. Measurements and styles of other elements such as arches, domes, columns, stair cases and brackets/ grills have been documented. After measuring and recording the structure and design elements of Islamia College details of the building have been mentioned. The collected data has been discussed with the help of photographs of all the important architectural and decorative features and where needed, with diagrams. The application of principles and elements of art and architecture have also been discussed in relation to the building façade.

Phase II: The photographs are vigilantly taken with a view to elucidating the text. Entirely new photographs were taken with the exception of a few old ones where necessary. The photography of all the building details was thoroughly taken for analytical and comparative study. As there is no proper research material available on the buildings of the Islamia College Peshawar, so the data collected from current study is mainly descriptive and hence inductive, for which each and every detail of the architectural components is recorded.

Phase III: In third phase the Auto Cad software was used for preparing drawing plans and front elevations to represent the data for study.

Chapter 2

HISTORY AND STATE OF RESEARCH ON COLONIAL ARCHITECTURE IN SOUTH ASIA

The unique geography of Peshawar has contributed greatly to its historical and cultural development. Peshawar has been identified as Frontier Town (Dani, 1995) located near the eastern end of famous Khyber Pass. It is one of the most lively and vibrant cities in the region due to its strategic location, which is a gateway to Central Asia and Afghanistan. The region had been continuously invaded by people from central Asia and had witnessed the rise and fall of several empires and rulers. This entire incursion left their impact on the religion, life, culture, heritage and architecture (Ali et al., 2005).

In 1857 the British overthrew the Mughal Empire and Britain colonial supremacy remained over three hundred years and their heritage still remains through buildings and infrastructure that populate their former colonies (Jaffar, 1936). (Metcalf, 1989) stated that in the architecture, the British wanted to add their view of India's past into their own structures, and so signify British Raj as acceptably Indian, while at the same time building a modern India, without the debate that usually follows modernism. The major cities colonized during this period were Madras, Bombay, Calcutta, Delhi, Agra, Nagpur, Bhopal Karachi, and Hyderabad (Tadgell, 1990).

Due to this colonization in Sub-continent local architecture style was greatly influenced which, opened a new chapter in Sub-Continental architecture. The early constructions were practical stockrooms and walled trading posts, giving way to fortified towns along the shoreline. The French, the Dutch and Portuguese made their existence considered through-out their buildings but only the English left a lasting impact on architecture. More than hundred years of British colonial rule drastically remodeled the superstructure of the Sub-continent and paved its way to modernity. The British rulers viewed themselves as the successors to the Mughals and used architectural manner as a symbol of power (Binda, 2004). The colonialists had followed numerous architectural

styles within India. Some of the quite prominent comprise: Gothic, Imperial and Victorian with English Renaissance providing the fundamentals.

Colonial architectural approach of the Sub-continent is the great period of Britain's pre-eminence in this region, incredibly coinciding almost accurately with their industrial domination in the world at large. Thus, the buildings they built in the Sub-continent were the sign of their triumph. The architectural manner of England reached the Sub-continent rather late due to the long distance travel by sea. This architectural supremacy spanned for long period with variation according to time. Baroque was the prevailing styles in England when the British came to power in the Sub-continent. In the years when they were building the Presidency towns of Bengal, Madras and Bombay Georgian neo-classicism was the prevailing style. The Gothic revitalization was in full elegance by the time they had made themselves prominent throughout the Sub-continent. The assorted splendor of high Victorian era coincided with the imperial apex. During the years that followed, the British progressively initiated further structural setups in other places, henceforth making an eternal impression upon colonial architectural style in the Sub-continent (Khan, 1985).

In the Sub-Continent, large pieces of urban land adjacent to the city were reserved for British cantonment and civil lines. The cantonment area housed the Army Headquarters, Army and Air Force schools, Defense Services officers Institute and residential area. At the beginning of the twentieth century, the residential bungalows were setup in a spacious lot. These houses were built for the British military officers associated with the Indian Arms, colonial officials and a small group of wealthy Indian elites. The early bungalows were in simple white-washed finish. This basic model developed into a more European classical form in outward exterior with the passage of time. It was symmetrical in form and largely so in spatial organization. It had a Central hall and rooms on the sides of the hall. The Veranda facing the garden or sometimes constructed at the back side was an important element. The kitchen and servant quarters were built separate in most instances.

Allen (et al.) (1986) points out the similarities and differences in an attractive manner and proves the assortment of the British imperial practice across both time and space. Many of the buildings are also very beautiful, amalgamation of innovative layouts,

pleasing ornamentation, and a surplus of building materials into an enthralling collection of contrasting styles and uses. The British colonizers created livable houses that reflected their pretensions to graciousness with practical buildings of power and churches emphasizing the empire's beneficial nature. Various authors have contributed idiosyncratic essays, focusing on different topics, signifying that architects exported British thoughts of beauty that particularly in India bespoke to local conditions.

Metcalf's work (2002) on imperial Indian Architecture is a significant and unique input to a sprouting field of research. It builds upon a mounting interest in the customs and traditions of colonialism. The splendid buildings constructed by the British in the Sub-Continent, many of which still speak of their glory and are appreciated by the travelers, did not spring up simply from the visualization of the architects or from merely administrative or aesthetic concerns: significantly they embodied a vision the British had of themselves as the sovereigns of the Sub-Continent. The author examines the relationship between traditions and power as expressed in the architectural forms the British employed in India. From the great monuments of New Delhi to the haziest constructions in country towns these buildings evidently signify in stone the preference the British made in politics as colonial rulers. The author highlights how, in the years after the revolt of 1857, the British boost an image of themselves not as simple foreign conqueror, but as legitimate, almost innate rulers, associated directly to the Mughals and therefore to India's own past. In doing so, they shaped the idiosyncratic appearance of so-called colonial architecture.

Volwahren (2004) described and evaluated the palaces, mansions and government offices, and concluded that they signified a blend of Eastern and Western architecture on India's towns and cities, particularly Bombay, Calcutta and Madras, providing plentiful drawings, illustrations and photographs of the many remarkable buildings throughout the Sub-Continent. Informative explanations highlighting the significant features of these superb structures are discussed.

Morris work (2005) is also an incredible blend of information for all types of private and public buildings of the colonial age with photographs that focus every type and style of architecture that the British rulers produced in the years 1780s - 1930s. The attitude of the British to India was compounded partially of superiority, but partly also

of wistfulness, and it shows in their structures. In his work the building techniques are clarified like Georgian terraces which were tailored to tropical conditions and also railway stations which were mostly planned in Victorian style. These buildings were not valued by indigenous people but they practically utilized them. The government buildings like railroad stations, race courses, hotels, clubs, forts, churches, law courts, bridges, tunnels and museums have all been documented in detail by the author. Morris brings forth the fact that the British built their buildings according to designers that would ensure persistent survival and use. The literature is both enlightening and interesting and it is quite a remarkable accomplishment account of the British Raj's architectural and historical testimonial.

Scriver and Prakash, (2007) describe that in South Asia the architectural style was Indo-Saracenic. The building style reflected the Mughal on the outside and the British inside; the facade being erected with an Indian touch while the interior was exclusively Victorian. Some most superb masterpieces of this style, like the Law Courts, Presidency College and Senate House are still standing in Madras. The Law Courts particularly stand out for their magnificence with a marvelous combination of Muslim arcaded verandahs, canopied balconies, which summit off with a minaret at whose pinnacle is a spherical dome.

Kumar (et al.) (2012) in their research discuss salient architectural features of selected colonial built heritage in Visakhapatnam and Andhra Pradesh, in India. The British during 1801-1947AD had left impeccable signs of urban planning and local architecture that are superb cum exemplary visual facts of the glorious past. The British utilized local techniques coupled with their native practices to build several edifices that stand now as proud heritage. Salient Colonial architectural characteristics were brought out in this communication. He pointed out that new layouts and infrastructure improvement such as establishment of markets, lightening of streets, and implementation of drainage and water supply schemes were executed. Newly introduced materials such as glass, concrete and wrought/cast iron opened new architectural ways of construction during colonial period. In fact, during this time, there was a rise in mixture of architectural styles that combined various Hindu and Mughal elements in such a magnificent manner that the same later on became local styles. These new styles exhibit as arches, turrets, minarets, crenellated parapet, finials and buttresses in a variety of structures. The

buildings constructed were, religious, public/administrative campuses, market places, hospitals, education establishments, railway and bungalows. The study categorizes three broad architectural categories, namely, British Colonial style of 1801-1850, Indo Saracenic style of 1875-1917 and British Colonial style of 1890-1947. The British Colonial style 1801-1850 of architecture was introduced in the city from the time of establishment of a military station at Visakhapatnam. At that time new building materials like glass and iron were introduced with Gothic architecture. The British planning and design techniques were used in the construction of large religious gathering places and schools of the city. This kind of architectural style was followed in the preliminary stages of development in constructions such as St. John's Church, St. Paul's Church and St. Aloysius Church. The Indo-Saracenic Style, a hybrid style, shared diverse elements of the Hindu with that of the Mughal architecture during late 19th and early 20th centuries. The elements used in a playful manner gave rise to domes, tracery, pointed arches, minarets, open pavilions and stained glass. This style is dominant in public buildings such as Queen Victoria Pavilion, Mrs. Ankitam Venkata Narsinga Row College and Maharaja Sir Gajapathi Row Hindu Reading Room. The British Colonial Style of 1890-1947 was an integration of vernacular/ native skills and designs into British style leading to the progression of a new style of architecture during 1890-1947. Introduction of bungalow type residential forms with colonnaded verandahs, Venetian shutters to doors/windows, monkey-tops (pointed hoods over windows), hexagonal or octagonal bays, stain glass fanlights, partially glazed and paneled doors, sash ventilators, and porches, etc. marked this period. Development of clock towers, turrets, light houses, conical/cross gable/Jack arch/pitched/pyramidal roofs, buttresses, circular arches, crenellated parapet, finials and reinforced cement concrete are the highlights of this period.

Kabir (et al.) (2014) in their research discuss the architectural style of different buildings designed by Jacob. He designed Medical College in Lucknow and Daly College executed in Indo Islamic style as were most of the monuments around the area. The building plans were proportioned, erected in four tiers, having central hall higher than the side rooms with an architectural expression of cupolas, chatrus, domes, finials etc. The material of construction was marble.

Lahore the cultural hub of Pakistan is notable for its variety and individuality of architectural heritage. During the colonial period buildings representing a mixture of Indo Islamic and European features were developed (Khan et al., 2013).

Vandal (1993) in his work discussed the building style of the Government College Hostel Lahore. He describes that the layout was planned by placing the cubicles and dormitory around a central courtyard with a verandah along the courtyard. The front block and its parallel part at the back was double-storeyed while the two residual sides were planned as single storey construction so that the roof, whose entrance was through an open staircase from the courtyard, could be used for the students at night to sleep outdoors during the summer months. A central double-height access was further enhanced through the use of ornamental brickwork and corners emphasized through increased heights. A balcony located at the upper level with terracotta jaliwork railing. The warden's quarters were located on the upper floor. Further the paper elaborates the main building of Mayo Hospital Lahore which represents the European architecture elements like semicircular arches. Albert Victor building, part of Mayo hospital was designed by using native architectural vocabulary, textured and enhanced with brickwork and sandstone brackets under eaves and window shades, which set it apart from the main building. Elaborate use of ornamental and molded brickwork, shading devices, the vocabulary, style and details, all reflect the local culture and climate.

Vandal and Vandal (2006) discussed the architectural style of Bhai Ram Singh buildings during British Raj. They discussed different buildings of Lahore designed by Bhai Ram Singh such as the Aitchison College Lahore. The main plan was designed with Moorish arches, and elaborated decorative details. There is a lofty central dome over portico with a clock tower enclosed by octagonal turrets, while the cupolas, chattris, domes, finials and the cornices spot the corners of the building to control the proportion, symmetry and the visual effect of the building. Eaves and brackets in red sandstone surround the building, with combination of red and pink marble, for the columns and the arches. The beautiful *jharokas* finished in white marble details are the evidence of the high aesthetical taste of the designer. This all is enhanced by the elaborate interlacing arches in red marble that screen the verandas with jalis. Further they describe the building of Mayo School of Arts (presently the National College of Arts) Lahore which was designed to humanize the scale of the uncovered brick facing

and impressive edifice. The building facades were subdivided into panels, and the lintel, plinth, cornice and sill levels were highlighted through terracotta jaliwork and intricate brick detailing using varying-sized ornamental bricks. The corners of the north wing, the main façade of the School, facing the Mall, was emphasized with turrets and chattris, while the ornamental embellishments such as the stucco work under the eaves, enhanced the grace and texture of the buildings too. A fountain was specially designed in marble in the center of the courtyard to further add to its beauty.

Khan (et al) (2013) spotted the Lahore railway administrative buildings erected during British Colonial Period. It investigates the mapping idea and architectural appearance of the buildings at individual level and evaluated them jointly for significant architectural assessment. The Lahore Railway administrative structures during the British Colonial Railway Period (1862-1947) can be measured as the foremost buildings among the stock of administrative buildings of Lahore. The former phase buildings were more significant in conditions of several planning approaches to encounter the climatic requirements of Britishers in Lahore. The building strategy resulted in corridors, huge verandahs and high ceilings which continued for a long time and became a vital element of the buildings. Roofs were also one of the important areas which provide stability and made the sketches of British colonial spaces realistic. The paper finishes with the major force after the railway administrative buildings were connected to climatic reflection, building construction and overall declaration of the buildings. Being imitation of identical details and essential components the overall details of railway buildings was connected with other British administrative buildings in India and England which documented the possession.

Mesaria and Jaiswal (2014) signify that there existed a number of “theme restaurants” outside India and a few, such style of restaurants were found in India too. The colonial theme reflecting the British period of Kolkata was yet not found in India and particularly in Vadodara which motivated the designer to undertake the present design project. Famous historical colonial monuments of British era in Kolkatta were identified and interior features were studied. The findings of the case studies highlighted that the colonial buildings having white-colored walls and floors were made up of wood and in majority of areas it was made up of marble with geometrical patterns.

The walls of the buildings had moldings. The old lights were replaced by the new lights. The furniture was made up of polished mahogany wood. The ceiling was of Mahogany wood and in some of the buildings was of cement with rectangular and square design.

The colonial architecture of Abbottabad a hilly area was documented by Aurangzeb (2014) in unpublished M. Phil thesis. He documented both secular and non-secular buildings and discussed their salient features. The study shows that vaulted roofs were used here because of rainy and snow fall. Wood suspended ceilings were commonly used due to abundantly available wood. Verandahs were supported by series of square pillars standing in a square dress stone base. Capital and base was decorated with floral motives. Different styles of arches were used in different buildings. Rectangular and semi-circle arched shape doors and windows with gabled roof structure were used to protect them from weather. The Dome was not commonly used in this region because of summer camp of army and cost of construction and lack of time. Grey dressed stone and timber was the major building material. Iron, girders were used for the construction of buildings and bridges.

Dani (1995) discusses the history and buildings of different periods of Peshawar city. He represented the city wall with *darwazas* built during Mughal period. He elaborates the architectural features of buildings built during different periods from the Buddhist era to the British Raj.

Jaffer and Salim's (2008) work is a description of the archaeological and historical sites in Peshawar. It comprises discussion on buildings from the Gandhara (Buddhist) period, and in specific, monuments of the Muslim, Sikh, and British times. The work divulges a continuous, historical and archaeological account of these sites.

Shah (2002) represents the architecture of the Idgah a religious structure constructed during the British period in Peshawar. He describes the layout of Idgah at Peshawar in rectangular enclosure. The main facade has arched entrances set in deep cusped and pointed deep alcove. The cornice is lime plastered. The parapet wall, octagonal minarets, molded band and cornices enhance the beauty of the building. Blind arches and arched windows with stucco grills were added on the second storey of the minarets. The ribbed domes with acanthus leaves and inverted lotus and crowning finials acted

as dominating features of the building. The courtyard was paved with burnt bricks. Small sized burnt bricks in lime mortar were used in building structure.

During the British rule many significant public structures were commissioned throughout the city. They are unique in style and structure. Many of these colonial structures are still standing and the architecture of these colonial buildings need to be un-folded.

Lal Baha (2013) wrote on the history of Islamia College, Peshawar that covers an enormously foundational and exciting period in the history of Islamia College. The birth of Darul-Ulum-i-Islamia, Peshawar, the movement, collection of subscriptions the choice of a site and the board of trustees of the college are discussed in detail.

The only documented research on the architecture of Islamia College is conducted by Durrani (2005) even that is confined to the College mosque. His work represents the architectural features and the general plan. The plan of Isamia College Mosque is rectangular with bricked boundary wall having geometrical shaped holes in the entire wall. The main entrances have a large arched alcove topped by minarets on either side and smaller ones in the centre. A series of rooms and abulation area is provided on eastern side. The bricked courtyard having a fountain in the mid is now paved with hexagonal shaped marble tiles replacing the previously bricked ones. The façade of main prayer hall has five arched doorways set in deep alcove, containing within rectangular panels approaching through the courtyard. A projecting cornice separates each entrance from the tympanum above. The whole facade is embellished with floral and geometrical motifs in painting. The wooden doors are provided for entrance to hall. The interior of hall is decorated with multi-foil arches supported on heavy piers. Domes are ribbed decorated with inverted lotus flower and finials. The hall is embellished with colorful decoration in foral, faunal and geometrical designs interwoven with arabic calligraphy.

These new styles of British architecture left impeccable signs of architecture that are excellent cum exemplary visual confirmation and virtual reminders reflecting the practicality such as columns, arches, crenellated parapet and domes. The British employed local methods coupled with their native practices to build several edifices that now stand as proud and impressive heritage possessions of South Asia. These

buildings are the best examples of planning materials, methods and construction techniques.

Chapter 3

ARCHITECTURAL HISTORY OF PESHAWAR

Architecture is one of high points of rich blend of different civilizations that include accumulation of expression. Architecture is certainly positioned as one of the best achievements of Peshawar. In this region the development of architecture has taken place over the centuries. Various factors like geographical conditions, socio-economic elements and invasion by the different dynasties have contributed tremendously in the growth and development of architectural styles. The architectural specimens found are enormous in range because of an assortment found across the regions. These specimens are discovered by archeologists and prove that the area was always a power with best architecture.⁸ Different eras in history have gifted different architectural styles such as Indus valley civilization which shows best architectural planning. Numerous buildings based on amazing designs came into existence during the Buddhist and British era and then in the post independence period.

3.1 IMPORTANT HISTORICAL BUILDINGS OF PESHAWAR

Architecture and bustling Bazaars of Peshawar are the main attraction and beauty of the city. The tradition of buildings had existed in Peshawar for ages but with the advent of the Mughals and the British, their look and style changed gradually.

In the region most of the buildings are in a ghastly state being partly or fully demolished. There is a strong influence of Islamic, Mughal and British art in the

⁸ Beauty of Indian Architecture (<http://discovertheindia.blogspot.com/2009/04/beauty-of-indian-architecture.html>)

architectural style of buildings and archeological sites in this part of the region. There are also a few structures and archeological sites having influence of other religions such as Hinduism and Sikhism. Some of the significant buildings and archeological sites in different areas of the region at different periods are:

3.1.1 Buddhist Monuments in Peshawar

It turned Peshawar into a genuine place of pilgrimage as a number of travelers and followers of Buddha travelled here from different areas. Unfortunately most of these monuments have vanished altogether, others are near to decay, and only a few have survived the devastation of time and man. Gor Khatree, (Pipal Mandi-Dhaki Nalbandi) Shahji Ki Dheri (Hazar Khani) Buddha's Casket, Buddha's Begging Bowl, Kanishka's Monastery etc are among some of the very famous and important Buddhist remainders in Peshawar (Shah, 2009).

3.1.2 Sikh Monuments

- Balahisar Fort
- The City Wall
- Gurdwara Joga Singh
- Burj Hari Singh
- Gor khuttree Complex

3.1.3 Muslim Monuments

- Mahabat Khan Mosque
- Bala Hisar
- Sari Jahanabad
- Tomb of Nawab Said Khan
- Sethi Houses
- Wazir Bagh
- Shalimar Bagh
- Ali Mardan's Garden (Company Bagh)

In colonial period, architecture became an insignia of supremacy, intended to sanction the benefactor. Numerous outsiders invaded Peshawar and formed architectural styles reflective of their inherited and implemented homes. The British colonizers created architecture that symbolized their mission of occupation, devoted to the state or belief (Thapar, 2004).

3.2 COLONIAL BUILDINGS OF PESHAWAR

British Period (1857 - 1947): Before the sovereignty of the Indian Sub-Continent, Pakistan in 1947 remained a part of the British Empire for around a century. Thus, the British administrators left an impact on the life and living style of Indian people. Amongst the British bequest a new form of architecture emerged which still subsists and presents a blend of Islamic and the Western Architecture (Ihsan, 2007). In this British rule hundreds and hundreds of new momentous public structures were commissioned throughout the country. This colonial architecture in the form of Residential Bungalows, rest houses, educational institutions, churches hospitals, post offices, museums, courts, assembly halls, city halls, libraries, and railway stations as well as architecturally significant bridges and tunnels are still very eye-catching and in working condition. Rest Houses and family resorts in different regions of Khyber Pakhtunkhwa were built in the British Period such as in Abbottabad, Thandyani, Nathigali, Dungagali, Ayubia, Kaghan Valley Shogran and Naran as their vocational resorts in hot summer.

Similarly the British Architecture can be seen in different parts of the Peshawar city. They developed various types of buildings such as secular, religious, educational, memorial, hospitals, cantonment area, railway stations and bridges. Some of the important colonial buildings of Peshawar city are:

a) Secular Buildings

- St. John's Church
- All Saints Church
- British Cemetery

- b) Memorials**
 - Hasting Memorial
 - Cunningham Clock Tower (Ghanta Ghar)
 - Victoria Memorial (Peshawar Museum)
- c) Hospitals**
 - Lady Reading Hospital
 - Royal Artillery Hospital now called "Combined Military Hospital" (or CMH)
- d) Cantonment Area**
 - Mall Road
 - Lalkurti Bazar
 - Railway Station
 - Air Port
 - Governor House
 - Peshawar Garrison club
 - Peshawar Golf Club
- e) Educational Buildings**
 - Edwardes Mission School
 - Edwardes College
 - Elizabeth High School
 - Lady Griffith School For Girls
 - Agriculture Institute Jamrud Road
 - Islamia School on Railway line
 - Darul-Ulum-e-Islamia Sarhad (Islamia College University Peshawar)
- f) Other Buildings**
 - Frontier Constabulary
 - Deans Hotel (now Dean's plaza)
 - Fire Brigade

St. John's Church: St. John's Church is situated on St. John's Road (now renamed Sir Syed Road), in Cantonment area near Peshawar Garrison Club which was built in 1852 in a period of eight years by raising donations by Dr. Kemp, a founder of Peshawar mission (Dani, 1995). It is considered as one of the oldest Christian monument in Peshawar. Its foundation stone was laid by Archdeacon Pratt and it was consecrated by Bishop Cotton of Calcutta (Jaffer, 2008).

Architecture of the building is in purely western style. Gothic style buttresses extended upward are the dominating element of the building (Plate 1). Gothic pointed arch is placed in arched frame. On walls a circle with floral motive is added right above the arch. This brick structure building is built with sloping roof.



Plate 1: Peshawar, a general view of St. John's Church.

All Saints Church: This Church is situated inside the Kohati Gate opposite to Edwardes High School and was built in 1883 (Jaffer, 2008). The foundation stone was laid by Captain Graves. The name All Saints Church is due to the various Christian missionaries who worked and preached here. The church's main door is on East (Hughes, 2007). The ambulatory has a number of mural tablets in memory of these missionaries. The architecture of this church represents Persian style with symmetrical and proportional columns and arches which show the adaptation of oriental mosque style (Dani, 1995). It has a service hall in oblong shape. On the western corner of the hall there is attached tower which is coronet with piercing dome with a brass cross symbol at the top. Wood work is also used in the form of screens with beautiful carvings of different styles (Dani, 1995). The exterior color of Church is white with rectangular framed doors placed in an arch frame (Plate 2).



Plate 2: Peshawar, a general view of All Saints Church.

British Cemeteries: The British Army had initiated hundreds of movements and voyages from 1840s onwards. Many military units were embodied here. During their stay they lost their lives and were buried in different cemeteries. Reverend James Worthington Jukes in his recollections *Missionary Work Peshawar 1873-1890* documented the following graveyards in the 19th century: Old City Cemetery (no longer exists); Saddar Cemetery (at the back of the CMH, no longer exists); Old Jamrud Road Cemetery.

The Victorian cemeteries are of massive significance from a historical point of view. The cemetery in Peshawar known as the ‘Gora Qabristan’ is one such surviving cemetery of the Victorian Era. This cemetery (Gora Qabristan) lies at the entrance to the Khyber Pass near busy Jamrud Road. It is shaded by tall sheesham peepal and palm trees that are as old as the cemetery itself. The elegant lych-gate, (Plate 3) fine marble crosses in various English and Celtic styles greet the visitors (Jaffer, 1952).



Plate 3: Peshawar, entrance of the British Period Christian Cemetery in Cantt.

Hasting Memorial: Inside the Kacheri gate midway between Clock Tower and Mahabat Khan Mosque a raised platform known as Hasting Memorial is situated also known as Chock Yadgar meaning a square built in the memory. It was built in 1892 in the memory of Lieutenant Colonel Edwardes George Godolphin Hastings first British Commissioner of Peshawar who died on 2nd December 1884 (Dani, 1995).

Its location makes it perceptible for every traveler. It is a junction at the heart of the old walled city and a central point of major bazaars of Peshawar. It was an enclosure on a raised level with a double flight of steps. There was a small octagonal structure in the middle of the platform. It is crowned with a dome on octagonal base. Because of octagonal shape eight pillars were erected to form an open chamber. Arches were formed by the sustaining of these pillars. The space was generally used for political meetings (Dani, 1995). The original structure (Plate 4a) was demolished and replaced by a new one in 1969 and a new horse shoe style monument of white marble was built to commemorate the heroes of the 1965 Indo-Pakistan War (Plate 4b).

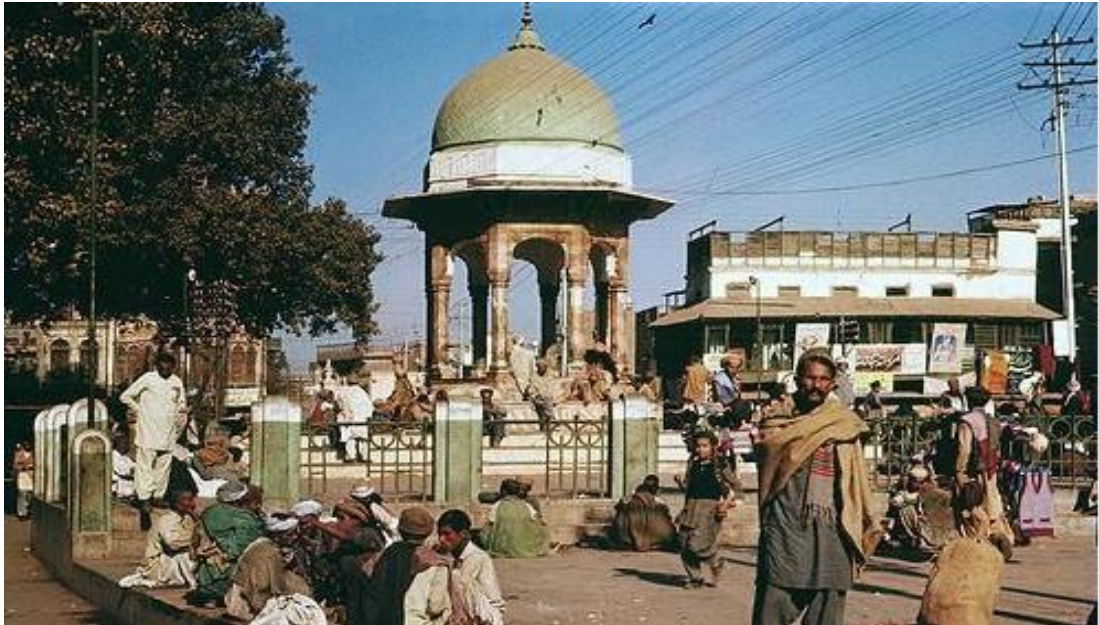


Plate 4a: Peshawar, an old view of Hasting Memorial (Chowk Yadgar).

In the early 1990s the horse shoe style was again demolished and was replaced with another domed shape structure resembling the original one as shown in (Plate 4c). This white marble monument presents a junk of concrete. The structure has side roads and an underpass for parking with all the money changers on the western buildings.



Plate 4b: Peshawar, an old view of Hasting Memorial (Chowk Yadgar).

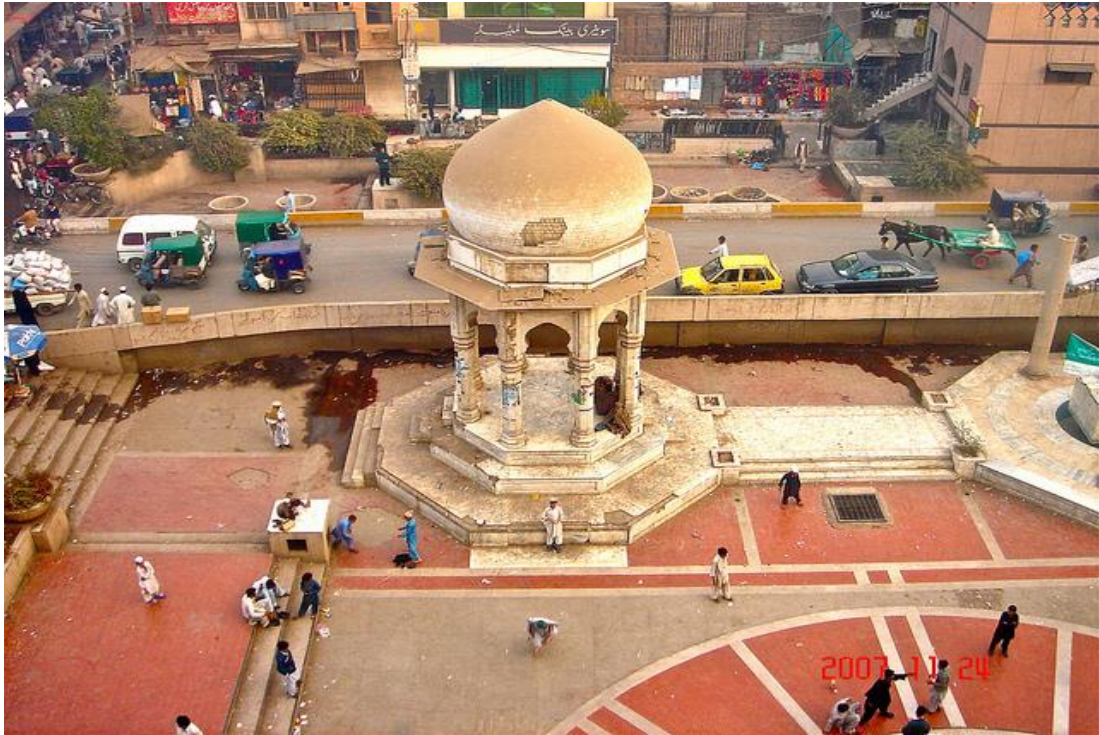


Plate 4c: Peshawar, a new view of Hasting Memorial (Chowk Yadgar).

Cunningham Clock Tower: Cunningham Clock Tower's structure is one of several historic colonial period buildings in Pakistan. Tourists to Peshawar could not miss to visit the place. This clock tower was raised at the turn of the century, on the eve of Queen Victoria's Diamond Jubilee and became another gem in the architecture of Peshawar that catches the eye of the visitors. The Cunningham Clock Tower refers to Sir George Cunningham former British governor and political agent in the province. This tower is locally known as "*Ghanta ghar*" (Bell house).

It is a great model of architecture situated in the famous Karampura Bazaar. The Clock Tower is located in the center that can be approached from the east through Hasting Memorial (Chowk Yadgar towards East) and Gor Katari towards the West.

It was founded by Rai Bahadur Bal Mokand (Jaffer, 2008). The structure has a very fine construction style taking care of the aesthetic sensibilities of the people of this country. It was made just like a minaret having four storeys. The height of the Clock tower is about 70 feet raised on a circumference of 60 feet (Peshawar District Gazetteer). Like Hasting Memorial this bricked-structure is also octagonal in plan. Arched shaped wooden double doors are endowed on all floors of the structure. Ventilation is through glass ventilators above the door. On each side a blind arch of door size and shape is given to create balance

and harmony. A balcony of structural shape supported by metal grill is also endowed for protection. The top is crowned with a pointed dome.⁹ The dome color is green and makes a great contrast with burnt bricks (Plate 5).

Mackeson Memorial: Peshawar was considered as the “garden city.” On the mall road, in the beautiful garden known as the Company Bagh (named after the East India Company), Mackeson Memorial stands (Plate 6). The tower was named after a British Commissioner, Lieutenant Colonel Fredrick Mackeson, who served on the Frontier and died on 14th Sep 1853. This memorial was erected by his friends on 2nd October 1853 (Jaffer, 2008). Now renamed Khalid Bin Walid Bagh, it is the only open space left for the general public to relax and perhaps do a bit of peaceful meditation under the old trees. (Plate 6)

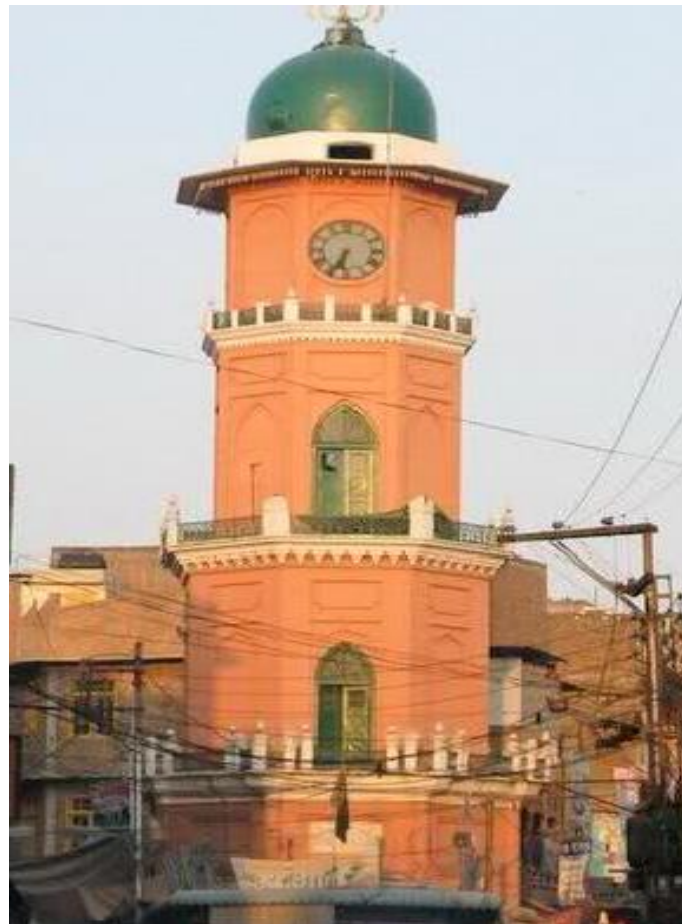


Plate 5: Peshawar, a view of Cunningham Clock Tower.

⁹ Personal Survey.



Plate 6: Peshawar, a general view of Mackenson Memorial.

Victoria Memorial Hall/Peshawar Museum: The Victoria Memorial Hall, at Present Peshawar Museum, was not originally designed for a Museum. The building was used as a center of social and cultural activities by the British military officer posted at Peshawar. After the death of Queen Victoria a building was erected in her memory and named as Victoria Memorial Hall in 1905 (Jaffer, 2008). Later on the name was changed to Peshawar Museum (Plate 7). Peshawar Museum is among the popular archeological museums of South Asia particularly so because of the Buddhist sculptures from the period of Gandhara.

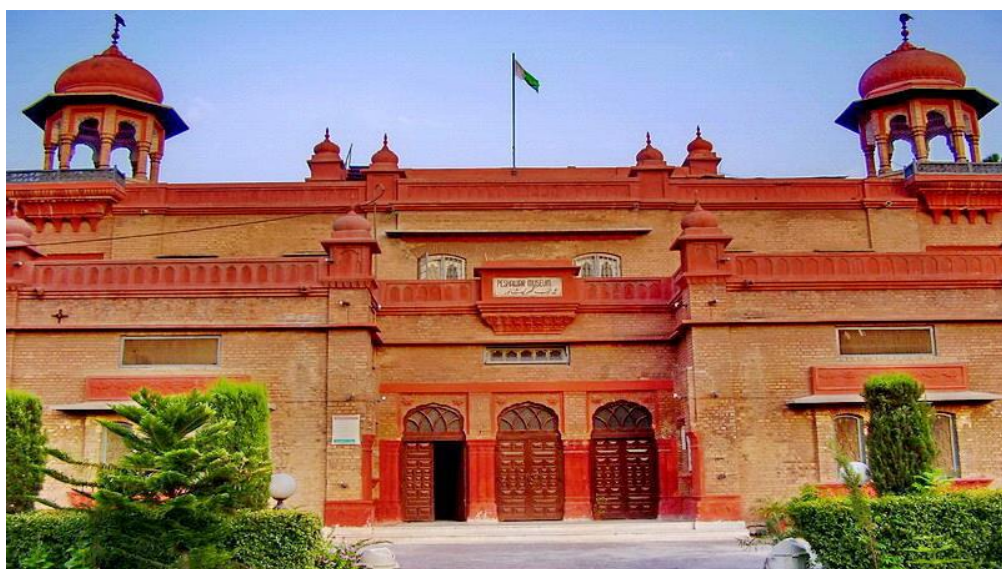


Plate 7: Peshawar, a general view of Victoria Memorial Hall/Peshawar Museum.

Peshawar Museum is situated between city and cantonment. It is a building made up of red bricks crowned with kiosks on four corners (Peshawar District Gazetteer). The three main entrance doors are intricately carved wood. The upper parts of these doors are arched shaped with glass panels. The rectangular windows are in simple semi- arched shape. The interior consists of double-storey with the main hall of the Museum with two side aisles on ground and first floor. Four elegant cupolas and small pinnacles are added on corners of side aisles. The main hall is spacious and has two galleries on sides and four rooms on either sides of the entrance. A platform is built at the far end of the hall. The architectural style is Curzonian.

In one section the exhibited items are lithic inscriptions, sculptures, terracotta figurines and many other things correlated to Buddhism. Kanishka casket is the most important possession recovered in archaeological excavations from Shahji-ki-Dheri situated in the outskirts of Peshawar. In the other section tribal and Muslims eras are covered. Beside all these things there are many other things displayed in Museum like engraved pottery, engraved gems, metal objects jewelry and ivory shells. It has a nice collection of ancient coins that were excavated by different archaeologists (Dani, 1995).

Edwardes Mission School: The historical Edwardes Mission Higher Secondary School is the pioneer educational institution of Khyber Pakhtunkhwa (Plate 8). In May 1855, Sir Herbert Edwardes, the British Commissioner of Peshawar, established this school. Robert Clark, one of the foremost missionaries of this region was appointed as the first Principal of this historic institute (Principal's Report, 1949). Initially the school was built at Reti Bazar near Chowk Yadgar for primary level but later on the school was shifted to Kohati gate Peshawar. The school was established in the period when the province was under developed because of literacy rate.



Plate 8: Peshawar, a general view of the Edwardes Mission School.

Before independence the school was the learning center not only for inlanders but also for other neighboring countries like Afghanistan and Central Asia. In 1883-84 the school was upgraded to High School. This old institution has the distinction of imparting education to many distinguished academicians, politicians, social reformers and poets including Abdul Qayyum Khan who later on became the founder of “Darul-Ulum-i-Islamia”, Abdul Rab Nishtar, Patrus Bukhari and former President of Pakistan General Yahya Khan. Dr. Najeebullah former President Afghanistan and Dr. Khan Saib, the former Chief Minister of Khyber Pakhtunkhwa.

The current school building also has historical value because it was used earlier as a palace from 1823 to 1829 by the Peshawar Afghan Sardar Yar Muhammad Khan and by then his younger brother Sardar Sultan Muhammad Khan from 1831 to 1834. Later on the building was used as the Governor House by the British Governors. There was a Church in the school which was used by the British Governors and other officials. Now the Church is outside the school building. Initial academic classes of Edwardes College Peshawar used to be held in this school for ten years from 1901 to 1910.¹⁰

The existing building is entirely altered because of renovation and new faculties provided by provincial governments. The main door is still unchanged. There is a small mosque with the school gate constructed for prayers and which is still in its original shape. There is a hostel for foreign students a bit away from the school in Dabgari. Now Elizabeth School for Girls is established there.

Edwardes College: Edwardes College was established by Church Missionary in 1900. It is an outcome of Edwardes High School, founded in 1855 by the society as the first institution of western-style higher schooling in the province. On May 1st the first Principal, Reverend H.J. Houre, opened the Log Book of the college.¹¹ The college was officially recognized by Lieutenant-Governor of the Punjab. For a long time the college was the only institution of higher education in the province. The college is named after Sir Herbert Edwardes a British colonial administrator and commander. The college was

¹⁰ <http://khyberwatch.com/main/?p=673>

¹¹ Log Book of Edwardes College, Peshawar.

visited three times by the founder of the nation, Quaid-e-Azam Muhammad Ali Jinnah, by Mahatma Gandhi, and by the Archbishop of Canterbury Rowan Williams.

The first major college building was built in 1910 and is now known as the Old Hall. The building is in Mughal style (Plate 9) and the same style was reproduced in a number of later buildings of the province.



Plate 9: Peshawar, a general view of the Edwardes College.

The college campus is situated in the military garrison section of the city or cantonment area and it lies near the railway station, the provincial museum and archives. The college includes both a Muslim mosque and a Christian chapel. Edwardes college building is surrounded by a set of rooms with central hall, library and class rooms (Peshawar District Gazetteer). The Principal's Bungalow is now the oldest building, which was bought by the Church Missionary Society as its local headquarters in 1855. Fully restored and renovated between 1987 and 1995, the bungalow contains, in addition to personal accommodation, a board room used for regular administrative meetings and for other such gatherings.

Darul-Ulum Islamia (Islamia College Peshawar): Darul-Ulum Islamia is a recognized educational institution located in Peshawar. It was founded by Nawab Sir Sahibzada Abdul Qayyum and the Chief Commissioner of the province Sir George Roos Keppel in October 1913. The main aim was to provide quality education to the

students of this province. The college edifies its students in humanities and modern sciences. In the year 2008 the college was given the status of a chartered university, with Mr. Muhammad Ajmal Khan appointed as its first Vice Chancellor.

The architecture of the college is marvelous (Plate 10). It is an amalgam of Gothic and Muslim architecture with domes and kiosks in red brick with vast open lawns and fountain. Mughal arch throughout the building give it a magnificent look. The building comprises different sections gradually added with the passage of time with the increase of student enrollment. The details are provided in Chapter 4.



Plate 10: Peshawar, a general view of the Darul-Ulum Islamia/Islamia College.

Lady Reading Hospital: The Lady Reading Hospital is one of the most significant Post Graduate Medical Institute of Pakistan. It is the principal hospital of Khyber Pakhtunkhwa province providing all kinds of care and facilities. It is named after the “Lady Reading”, wife of the Viceroy of India, Lord Reading. (1921 to 1926). On her visit to the city she fell from the horse back and got injured. Due to non-availability of medical aid instantly she was shifted to the Royal Artillery Hospital. In 1926 she again visited Peshawar from Dehli and campaigned to construct a standard hospital.

The hospital is situated at the back of the renowned historical Balahisar Fort, near Muhabat Khan Mosque. The hospital is just outside historical wall in the jurisdiction of

cantonment board.¹² The architecture is relatively simple with sloping roof as shown in (Plate 11). Doors and windows are simple. Columns are provided at the front of verandah to add beauty and give support to the roof. A double storey Boulton block of the hospital is built with wide u-shaped stair case. The block has spacious room with high ceiling.¹³ Large vertical casement type of windows with glass insertion is added for ventilation and beauty.



Plate 11: Peshawar, a general view of the Lady Reading Hospital.
Royal Artillery Hospital “Combined Military Hospital” (CMH): In cantonment areas various hospitals of Pakistan Armed Forces called Combined Military Hospitals (CMH) are situated, which are categorized into A, B and C classes depending upon their potential and generally correspond to tertiary care, secondary care and primary level care hospitals respectively. into A, B and C classes.

During the British rule, the Royal Indian Army entirely depended on their regimental hospitals for their medical treatment. The British Indian Army troops were positioned over a wide-ranging area. They were present in north-west to the east and were open to the elements to the sultry climate. The major health related problems were of tropical infections

¹² wikipedia.org/wiki/Lady_Reading_Hospital

¹³ Personal Survey.

and parasitic infestation. Combined Military Hospital (CMH) and Military Hospital (MH) were the biggest and the most, well-equipped hospitals in this region at that period.¹⁴

The architectural plan is a single storey resembling the western style with large windows and sloping roof. The ceilings are high with ventilators to provide cross ventilation in the interior set up. The buildings are constructed in different blocks with front verandahs.¹⁵

Mall Road: The term “cantonment” means an eternal military station or arrangement where the soldiers lived, in forts, barracks, quarters, or occasionally camps. In 1849 on a high ground west of the old walled city the British founded a new contemporary Peshawar Cantonment like the other cantonments which the British built near every major city for their secretarial offices, churches, military barracks, residences, parks and shops.

The Peshawar cantonment turned into an avenue lined with tall trees, scents, and flora. In spring near Peshawar the fields of flowers are very beautiful, written by Emperor Babar in his memoir (Babarnama, 1526 AD). It is also called as “The City of Flowers”.

The Peshawar Cantonment also known as “Sadder” is a township with roads of tall trees, encompassing fragrant flowering shrubs. The main road of cantonment is known as the Mall Road. It sweeps in easy curves through orchards of fine trees shading the single storey houses with spacious lawns on either side. The roads radiate from a central hub fixed at the old Company Bagh, now known as Khalid Bin Walid Bagh. St. John’s Church lies towards the north of the same road such a few meters away military offices, bungalows and Peshawar Garrison club is situated (Peshawar District Gazetteer).

The far-reaching road, built during that period is still in use. The British rulers initiated city planning, built elaborate road systems, bridges, railways and airfields. They also set up byelaws and housing registries as well as named streets and roads.

¹⁴ <https://www.google.com.pk/#q=history+of+Combined+Military+Hospital%22+peshawar>

¹⁵ Personal Survey.

Lalkurti Bazar: Lalkurti is an area in the heart of Peshawar cantonment. Lalkurti Peshawar is a residential area and a bazaar since the British colonial period. The name Lalkurti (red shirt) is thought to have been consequential from the red-colored shirts put on by the companies of the Royal British Indian Army who worked in the shooting ranges of the cantonment. Lalkurti is considered to have originated as the colony of those red-shirted workers of the British Indian Army. Places with the same name are also found in other cities of Pakistan.

Architecture of this area is quite simple. Houses were built for lower rank army soldiers. The covered area of these houses is small having single storey. Walls are thick built with bricks material. Doors and windows of wood in casement style are used. Shops are of small size only to facilitate the residents of the area.

Railway Station: Peshawar railway station is one of the oldest buildings in the British Raj. The railway track runs from Peshawar to Karachi and Quetta. And a special Safari train (Plate 12) service once a week to Torkham for tourists was started but now this service is closed.

Railway legacy laid down by the British rulers. It was in 1847 when the first railway was anticipated but it was not until 1861 that spans over a period of 200 years, it came into existence in the form of the railway built from Karachi. By 1898, as the network began to grow, another proposed railway line was in progress from Peshawar to Karachi. During the early 20th century, railway lines were also laid down between Peshawar and Rawalpindi and Rawalpindi to Lahore.¹⁶ The building structure of Peshawar Railway is quite different from Lahore Railway station and other buildings built during the British period. It is simple without any dome, kiosk and arches. It has solid plastered façade with double storey structure with larger size windows facing towards south. These straight line beam windows are added with glass and grills as shown (Plate 13). The lower portion is added with porch and verandah supported by simple columns.

¹⁶ archives.dawn.com/2002/04/26/local34.htm Peshawar, April 25, 2002.



Plate 12: Peshawar, a general view of the Safari Train Service.



Plate 13: Peshawar, a general view of the Railway Station.

Peshawar Air Port: In 1927 small airfield gratified British Empire aircrafts towards Europe and America in the west or towards China and Singapore to the east. For this reason the valley of Peshawar is known as “Gateway to East.” It is an International Airport previously called Peshawar International Airport, and now renamed after Khan Abdul Ghaffar Khan as Bacha Khan International Airport on 27th January 2012.

Peshawar Garrison Club: The Peshawar Garrison Services Club is situated on Sir Syed Road near the mall road. Formerly it was known as the cantonment club house. It is reserved for members and their guests. There is a joint agreement for provisional use of services by its members at any related club in Pakistan, such as Rawalpindi, Quetta and Karachi.¹⁷ Peshawar Club has a large pool that is set in gardens perfectly maintained by

¹⁷ https://en.wikipedia.org/wiki/Peshawar_Garrison_Club

army of gardeners. Fountains play nearby, surrounded by lawns where deck chairs are arranged.

Peshawar Golf Course: The Peshawar Golf Course is a large open ground located in the main city centre area. It is, bounded by the Grand Trunk Road and Shami Road and is a few meters away from the Pearl Continental hotel, Army Stadium and Fort Bala Hisar. It was built during the colonial days of the British era - by the British officers. The course is commonly used by elite members as well as foreigners.¹⁸

Frontier Corps: The Frontier Corps known as FC, is a paramilitary force, in-charge of retaining law and order in the country. It was established by the British rulers and was named after the former name of the Province North-West Frontier. The Frontier Corps was formed in 1907 by Lord Curzon, the viceroy of British India, in order to organize seven militia and scout units in the tribal areas along the border with Afghanistan: the Khyber Rifles, the Chitral Scouts, the Kurram Militia, the Tochi Scouts, the Chagai Militia, the South Waziristan Scouts and the Zhob Militia. It was created as an independent Civil Armed Force, under the provision of the Frontier Corps Act, with the aim of stopping incursions and invasions from the tribal areas.¹⁹ Frontier Corps headquarters in Bala Hisar Fort Peshawar; a fortified solid façade wall of brick facing towards the north (Plate 14).



Plate 14: Peshawar, a general view of Balahisar (Headquarter Frontier Corps).

¹⁸ https://en.wikipedia.org/wiki/Peshawar_Golf_Course

¹⁹ http://en.wikipedia.org/wiki/Frontier_Corps#History

Governor House: The Governor's House Peshawar is a historic building. It is situated to the South of Victoria Memorial Hall now Peshawar Museum. It is the official residence of the Governor of Khyber Pakhtunkhwa.

The building of Governor's House is erected on a vast land. The lush green lawns all around the building and fountains represent the British era (Plate 15). It is a white colored double-storey building with columns created to form a wide verandah on both storeys. The wooden double doors and windows are in semi circle shape, painted in white.²⁰ Flat roof is erected throughout the building.



Plate 15: Peshawar, a general view of the Governor House.

Deans Hotel (Now Deans Plaza): Deans Hotel was built in 1913 with rambling lawns and was a remainder of the colonial era. Legendary celebrities like Quaid-e-Azam, Rudyard Kipling, Sir Winston Churchill, Professor Arnold Toynbee, King Nadir Shah of Afghanistan (in 1929) and so many others reside here.

As shown in (Plate 16) it symbolized a modest architectural grace of the Victorian period and attracted admirers from across the globe. The interior had varnished wooden floors in the grand ballroom, a piano dating back to 1897, and embossed tall mirrors and antique chandeliers.

²⁰ Personal Survey.



Plate 16: Peshawar, a general view of the old Deans Hotel.

The monument of Dean's Hotel suddenly vanished. Now a tall building of concrete and plaster stands on the south of the road a few meters away from Railway Station. The new building has replaced the graceful verandahs, pavilions and elegant classical buildings that once dotted the Cantonment area.

Fire Brigade: It was the first fire brigade service in the historical city of Peshawar. The British established fire service in Peshawar by arranging two vehicles made in 1919 and 1920. In an interview to The News Dr. Shah Nazar Khan, provincial director Archaeology and Museums told that “at that time, the vehicles were without water tanks. The British-run administration had channeled fresh water from Bara in Khyber Agency and the water was diverted to every part of the city through the feats of wisdom, human ingenuity, and creativity through the art of engineering in the 1910s (2012).” He also added that there was no lack of water to quench fire with the two-vehicle convoy on any emergency the watercourses were monitored through streets and passages in the old walled city of Peshawar. Now the water channels of fresh filtered water supplied to the city have slowly and gradually turned into sewerage drains.

This historic building is situated at Gor Gathri. The structure is in poor condition. It is a double-storey building. Columns at the lower storey create a verandah while facade of the upper storey is erected above that verandah. Columns are with square base of very simple type. Casement windows of wood and wooden overhangs are provided on the

upper storey. The room on upper storey is also provided with fixed wooden Jalousie or louvered windows. Three garage type wooden gates with metal bolts and a double door with a ventilator is provided in the lower verandah. The building material is brick. On the front wall there is an inscription *1912 Fire Brigade Municipal Committee Peshawar*²¹ (Plate 17).



Plate 17: Peshawar, a general view of the Fire Brigade.

²¹ Personal Survey.

Chapter 4

ISLAMIA COLLEGE PESHAWAR BUILDINGS: CLASSIFICATION AND DESCRIPTION

4.1 HISTORY OF ISLAMIA COLLEGE

The Muslims, once the supreme power of the sub-continent progressively gave in to the external maneuver and plotting. Though their power vanished but the will to revive the magnificent history was still alive amongst the Muslims of the territory. It was time to reunite, restructure and expel the aggressors through education and pen. The requirement of the time was to attain contemporary education and enlighten the minds of the youth of the sub-continent to fight for their rights and recover the control of the lost empire.

During the British rule the Muslims of the Sub-continent were in a miserable situation. They reformed the original system of education which destroyed the faith of the Muslim and Hindu community. The foreign rulers had their own aims in broader prospective. They wanted to generate a breed of Indians who would be English in life style and thinking despite their race and color and away from their religion, tradition and culture (Khan, 1990). This mode of thinking was alarming for the cultural, political and religious values. The thought of the great scholars Sir Syed Ahmad Khan for the betterment of Muslims was reflected by the establishment of Aligarh University. In his view this university would equip new generation with the art of modern and religious knowledge that would ensure them a reasonable employment and comfortable life. For that reason Aligarh soon became the most popular institution for the Muslim parents and students. The institution attracted young generation from all parts of the sub-continent (Qureshi, 1975) and promoted a sense of unity and brotherhood among the

Muslims. The Muslims were eager for opening more institutions on Aligarh precedent in the other parts of the Sub- continent. The British government did grant permission to establish two institutions one in Peshawar and the other in Lahore (Khan, 1990). These institutions provided the Muslims, education at their door step.

Education plays a supporting role in the sprouting culture. There were inadequate facilities of education in the province of Khyber Pakhtunkhwa. Exhibited pages of the history show the eager attempts of the pioneers, who worked for the cause of education. The establishment of the Islamia College in the province of Khyber Pakhtunkhwa resulted as a kindergarten and core of educational environment based on the pattern of Aligarh University India. The great institution of Islamia College was established with the consecrated reason to reveal modern education to the Muslim youth of this part of the sub-continent in order to enable them to shoulder their future responsibilities.

The two institutions which acted as catalysts in this region were Edwardes College and Islamia College. They not only impart a common platform to all tribes and clans but were instrumental in projecting common Pakhtuns identity and cultural foundation. They shaped generations of Pathans who were to spearhead the struggle for freedom and take on the tasks of the new nation and contribute to its cultural vibrancy.

Sir Sahibzada Abdul Qayyum and Sir George Roos Keppel were those who envisioned the plan of launching this seat of learning and worked enthusiastically along with their impressive companions to get it on the ground. The Islamia College and the Collegiate School were founded in 1911 on the site where the battle between Akbar Khan and the Sikh General Hari Singh Nalwa had taken place (Lal Baha, 1973). The impressive foundation-stone laying ceremony, held in March, was attended by the elite of the Province. The movement of Islamia College aimed at the resurgence and rehabilitation of courageous Pakhtun races, their culture and traditions.

4.1.1 Founders of Islamia College

“Nawab Sahib and myself dreamt a dream at Landikotal, over twelve years ago, to build a College at its present site for the benefit of the Afghan boys. We often sat together till late at night discussing how Almighty God would be pleased to give us time to establish a College. The seed was sown three years ago. Today we all see a tree before us and here are the fruits (pointing at the boys in the gallery). I hope the tree will continue to grow taller and taller.” ²² Roos-Keppel, 1916

It was during the years 1904 to 1906 that marked the realization of a vision shared by two significant individuals, the idea of an institution of higher education for the Pakhtun boys in Khyber Pakhtunkhwa (Lal Baha, 1973). Sir George Roos-Keppel, the Chief Commissioner of the Khyber Pakhtunkhwa a mixed Dutch-Swedish-English blood, with an impressive administrative record and Nawab Sir Sahibzada Abdul Qayyum Khan, an eminent son of the soil, undertook this sacred task of providing education to the youth of the region and beyond. Sir Sahibzada Abdul Qayyum Khan belonged to a religious family of the Topi village, Swabi. After his basic education he joined the Edwardes Collegiate Mission School, passing the vernacular and English examinations, joined the Commissioner's office as a reader and translator in 1887. From here his devotion to work and timely advice to his British superiors led him from one admiration to another. Together with Sir George Roos-Keppel, he saw the requirement of education in which traditional disciplines and Western arts and sciences were imparted.

The association between these two eminent leaders and their love for Pakhtuns made them keen to work enthusiastically for intellectual and material betterment of the region. This effort of love bore fruit in the shape of a leading educational institution of Khyber Pakhtunkhwa, whose impact was sensed, in all walks of life, in the coming years. Their collective efforts escorted to an organized movement for the opening of the college in Peshawar region. In 1908 Roos-Keppel ensured the implementation of the idea as he became head of the province and was aware of need of education in the province (Lai Baha, 1973). During the period from 1909-1912 it passed through assorted phase.

²² Translation of an address in Pashto delivered by Lt. Col. Sir George Roos-Keppel, Chief Commissioner, N.W.F.P on the occasion of the Annual Prize Distribution of *Darul-Ulum-i-Islamia*, Sarhad, Peshawar, on the 13th April, 1916. A loose File in The old Record of the College.

Roos-Keppel and Abdul Qayyum Khan visited Aligarh, the great seat of learning of the Sub-Continent and were warmly welcomed by Pakhtun students. They were impressed by the institute. On May 10th 1911 “Afghan Taliban of Aligarh” denoted Rs. 100 as the fund for Islamia College (Qayyum, 1912). On their return Roos-Keppel was again approached by the leading Muslim gentry with the same demand. He then decided to approach other districts for their opinion and thus a letter was circulated. A passionate response was endorsed throughout the province. It showed the importance of college in the province (Qayyum, 1912). This enquiry was coupled by another Chief Commissioner W.R.H. Merk, who was appointed for the said seat as Chief Commissioner during the deputation period of Roos-Keppel. Due to the positive response from all the districts on 18th January a committee was formed and Abdul Qayyum Khan was selected as its Honorary Secretary. This committee met with the Dean of Aligarh College to sketch the rough outline of the project, which was presented to the chief Commissioner on 24th May 1910 with the request for financial help and submission of the project to the Imperial Government (Qayyum, 1912).

4.1.2 Funding For College Building

The estimated cost for the construction project of Darul-Ulum Islamia was Rs. 334,500 for the initial expenditures of construction and equipments and for recurring charges Rs. 55,200 were needed (Lal Baha, 2013). The request was made to the Government as a special case to share half of amount of recurring and initial amount. The remaining amount was collected from the Muslim community in three ways: first by subscriptions from Muslim Government workers pay; secondly by contributions from well-off people; and finally from the donation from Muslim revenue payers (such as land revenue payers).

A Provincial Committee and District committee was formed to collect contributions for Islamia College in April 1911. Hamilton Grant the Deputy Commissioner and Sir Sahibzada Abdul Qayyum were appointed as Joint secretaries of the Provincial Committee. Rs.10,000 was to be donated by the Vice Presidents of the Provincial Committee and the members were to donate Rs. 1000 whereas Rs. 2000 would be donated by the Vice Presidents of the District Committees and 500 by their members.

In May 1912, a generous grant of Rs. 200,000 for the capital expenditure and Rs. 25,000 for recurring expenditure was given by the Imperial Government (Lal Baha, 2013).

The campaign for collecting donations for the college was properly launched. Renowned members of the society like Abdul Qayyum Khan, Sethi Karim Bakhsh, and Abdul Karim Khan as well as several tribal chiefs and distinguished religious scholars contributed generously. Abdul Karim Khan, the contractor, took the initial step and donated Rs.10000. Mian Rahim Shah Kaka Khel promised a sum of Rs. 100000 and 50000 were donated by Haji Mian Karim Baksh for the construction of the mosque. The Nawab of Amb and Nawab of Dir promised Rs. 100,000 each. Nawab Mohabat Khan of Toro and Nawab of Mohmand promised Rs. 10,000 each.²³ An amount of Rs. 45,000 was collected by Nawab Ahmad Nawaz Khan Sadozai of Dera Ismail Khan (Lal Baha, 2013). Along with cash some of them contributed in the form of land, trees and jewelry. Such as, the ruler of Dir State, Aurangzeb, besides cash contributed 400 trees. Sethi Sahib promised to provide bricks at a cheaper rate for construction. The widow of Khairullah Khan, Bibi Gul, a resident of village Prang, Charsaddah, donated her jewelry endeavoring to inspire other women. Two women contributed bags of wheat sold at Rs. 50 each (Lal Baha, 2013).

In a short period of six months by October 1911, a handsome amount was collected and there was hope of more collection which could be raised to seven to eight lacs (Lal Baha, 2013). These contributions gave more popularity to the Darul-Ulum Islamia. The movement for the collection of fund was continued till the amount reached fifteen lacs (Qayyum, 1912).

4.1.3 Site of the College

Selection of the land was the important matter and for this purpose different areas were inspected. The Joint Secretaries, Sahibzada Abdul Qayyum Khan and Mr. A. H. Grant, Deputy Commissioner, assisted by others suggested different areas. The first suggestion was Wazir Bagh Peshawar but it was rejected by Roos-Keppel because of the historical

²³ Sahibzada Abdul Qayyum Khan, Initial Report, Darul-Ulum-i-Islamia, Subai Sarhad, Peshawar, June 5, 1912, pp 3-4.

site and a recreational place for the citizens. Larama area three miles to the north of the city was suggested but the people refused to give their land. A land of 46 acres on Kohat road Peshawar was inspected by Lt. Col. G.L. Dukf, the Civil Surgeon and Garrison Engineers at Peshawar but was not approved. The joint secretaries ultimately succeeded in selecting the existing site. The spot was suggested by Roos-Keppel (Lal Baha, 2013). The area at that time was an infertile and bumpy land scattered by ancient mounds and water courses. Geographically and historically the site was considered as the best one having a striking sight of the Khyber Mountains. In 1837 a battle between Afghans and Sikhs was fought here in which Ranjit Singh was defeated by the brave Dost Mohammad Khan. It was the same site where a large Buddhist monastery of 2nd century under Kushan rulers was built (Peshawar Gazetteer). This made the institution a great era of culture and civilization of Asia (Qayyum, 1912).

The proposed land was only six miles away from the historic Khyber Pass at the western edge of the Peshawar Valley. The distance from the cantonment is about three kilometers. The joint secretaries acquired an area of 199 acres, 6 kanals and 7 marlas (Qayyum, 1912). The land chosen for the college building was the property of Khalils of Tehkal. According to Sahibzada Abdul Qayyum Khan the land was purchased at the average rate of Rs. 150 per jarib. The concession made in the purchase of land was considered as endowment for the great institution of the region.²⁴

For the preparation of maps and entire building activities the officials of the Military Engineering services were assigned with the consultation of the college committee. The agreement for building material had already been given. The work started on urgent basis because the committee's target was to commence classes from 1913 both in school and college (Qayyum, 1912).

4.1.4 Quaid-e-Azam's Visit

In the war of independence Quaid-e-Azam Mohammad Ali Jinnah had great expectations from the Muslims of India especially from the brave and religious minded sons of Khyber Pakhtunkhwa. He demanded adequate reforms along with other demands for the two Muslim majority provinces Khyber Pakhtunkhwa and Baluchistan

²⁴ A loose file from the old records of Islamia College.

in 1948. The founding of Islamia College symbolized the burning aspirations of the Muslims of the sub-continent to reassert their identity as a separate nation. It was also an embodiment of their urge to arm themselves with higher education in order to confidently take charge of their own destiny in free environment. Thus, the college represents a historical land mark in our national struggle for dignity respect and freedom. The Quaid-e-Azam in his life time visited Peshawar three times: in 1936, (Khan, 1980) 1945 and 1948 respectively.

The Quaid-e-Azam's first visit to this province was at his individual capacity and it lasted from 18th to 24th of October 1936. During his stay he visited Islamia College on 20th October 1936. Roos Keppel hall of the Islamia College was full to its capacity in his honor. After the welcome address by the Principal R.H. Holdsworth Union president Prof. Mohammad Shafi, paid tribute to the Quaid for his hard work in bringing unity among the Muslims. In his speech the Quaid advised the students "to advance themselves politically and educationally" (Lal Baha, 2013). On request of the vice president of the union, Mohammad Yusuf Khalil, Quaid-e-Azam became honorary life member and while signing the register he said that it was so appealing to his heart that he was signing the document without reading it.

The president of all India Muslim League Quaid-e-Azam Muhammad Ali Jinnah paid his second visit to Khyber Pakhtunkhwa from 19th to 27th November 1945 prior to general elections which were going to be held in 1946. Quaid-e-Azam visited Islamia College on Sunday 25th November 1945 for the second time. He was received by the college staff political elites, dignitaries of the province and a large number of students. The Principal of the College, Sheikh Muhammad Taimur and the Vice President of Khyber Union Mukhtar Ahmad welcomed and praised him for his efforts and struggle. A purse was presented to Quaid-e-Azam by the secretary of the Sarhad Muslim Student Muhammad Tehmas who said to the Quaid-e-Azam: "Quaid-e-Azam! Today we are giving you 8,000 rupees, but when you come here next time we shall present you 8,000 students who will lay down their lives at your bidding to win Pakistan." (Lal Baha, 1978) After that Quaid-e-Azam delivered his speech in which he laid stress on the role and responsibilities of students. He explained the political scenario focusing on world politics and emphasized the importance of the upcoming elections.

Quaid-e-Azam as the First Governor General of Pakistan visited the province third time. The visit was planned for eleven days from 11th to 21st April 1948. In this visit Mohtarama Fatima Jinnah also accompanied him.²⁵

Quaid-e-Azam started his visit from Islamia College on the very next day of their arrival on April 12th 1948 (Lal Baha, 1978). This confirms the acknowledgement of the role which the students of Islamia College played in the creation of Pakistan. He was welcomed along with the Governor of Khyber Pakhtunkhwa Sir Ambrose Dundas, Mohtarama Miss Fatima Jinnah and other dignitaries. In the Roos Keppel Hall Mr. ACT Brotherton, Principal, and Mr. Abdul Halim, Vice President of the Khyber Union paid tribute to the creation of first Muslim Ideological Muslim state.²⁶

In the speech Quaid-e-Azam Muhammad Ali Jinnah showed his love for Islamia College Peshawar²⁷ which could be judged by his “will” written on May 30th 1939 at Bombay. The relevant clause of the will is as under:

“Subject to above, all my residuary estate including the corpus that may fall after the lapse of life interests or otherwise to be divided into three parts – and I bequeath one part to Aligarh University, one part to Islamia College, Peshawar, and one part to Sindh Madrassa of Karachi.”

The amount received from the “will” has been spent on different projects of the institution.²⁸

4.2 BUILDINGS OF ISLAMIA COLLEGE

The scheme started with the opening of the Islamia Collegiate School in 1913 and of the Islamia College in 1914 with intermediate and degree classes. F.Sc. classes were opened in 1915 and B.Sc. classes in 1920. The college was affiliated to the Punjab University (Lal Baha, 2013) in English, History, Philosophy, Economics, A and B

²⁵ Golden Jubilee Brochure of Islamia College and Collegiate School Peshawar(1913-63) Islamia College Peshawar, 1963 p. 21.

²⁶ Dr. Noshad Khan Quaid-e-Azam- Muhammad Ali Jinnah and Islamia College Peshawar.1st June 2001 p. 10-13.

²⁷ Quaid-e-Azam's speech in Islamia College (http://hamsafar.info/speeches_statements_4804.php)

²⁸ Quaid-e-Azam Mohammad Ali Jinnah's Will (<http://m-a-jinnah.blogspot.com/2010/12/Quaid-e-azam-mohammad-ali-jinnahs-will.html>)

courses of Mathematics, Arabic, Persian, Physics, Chemistry, Botany and Zoology, and BA (honors) in Mathematics. The M.A classes were introduced in 1928 (Peshawar Gazetteer, 1931). Presently the following academic departments are functioning here: English, Urdu, Islamiyat, Physics, Chemistry, Mathematics, Botany, Zoology, Computer Science, Statistics, Geography and Theology.

On December, 2007 Governor Khyber Pakhtunkhwa Lt. Gen. (Retd.) Ali Muhammad Jan Aurakzai, made an announcement and renamed the historic institution as the Islamia College University (ICU). He himself was an old student of the institute.

The construction work for school and Islamia college building started side by side in October 1912 at a very rapid pace. The layout was designed in symmetrical order, which reflected the Muslim architecture merged with some Gothic features. The institution was provided with all the facilities such as a mosque, library, administration center, hostels, residences, quarters for staff, play grounds and a market as well.

The building is situated on Jamrud road and further towards the west the same road leads to the gate way of the Khyber Pass. A pathway links college and school building facing towards the South. The same pathway also leads to the mosque. Between Jamrud road and Roos-Keppel road there are vast playgrounds for different games which give spectacular view to the college. At the west of the college building the Principal's residence and residential area for staff is situated.

Radiating from the main road and running parallel to the east-west direction are the oriental faculty library, recreation center and hostel buildings: Harding, Chelmsford, and Butler, Abdul Qayyum, Grant and Khyber hostel. The left side of this road had a second row of hostels namely: Usmania, Oriental and Rahim Shah Ward. There was plenty of land which has been reserved for agriculture but now most of it is occupied for academic buildings and hostels for University students (Figure 4).

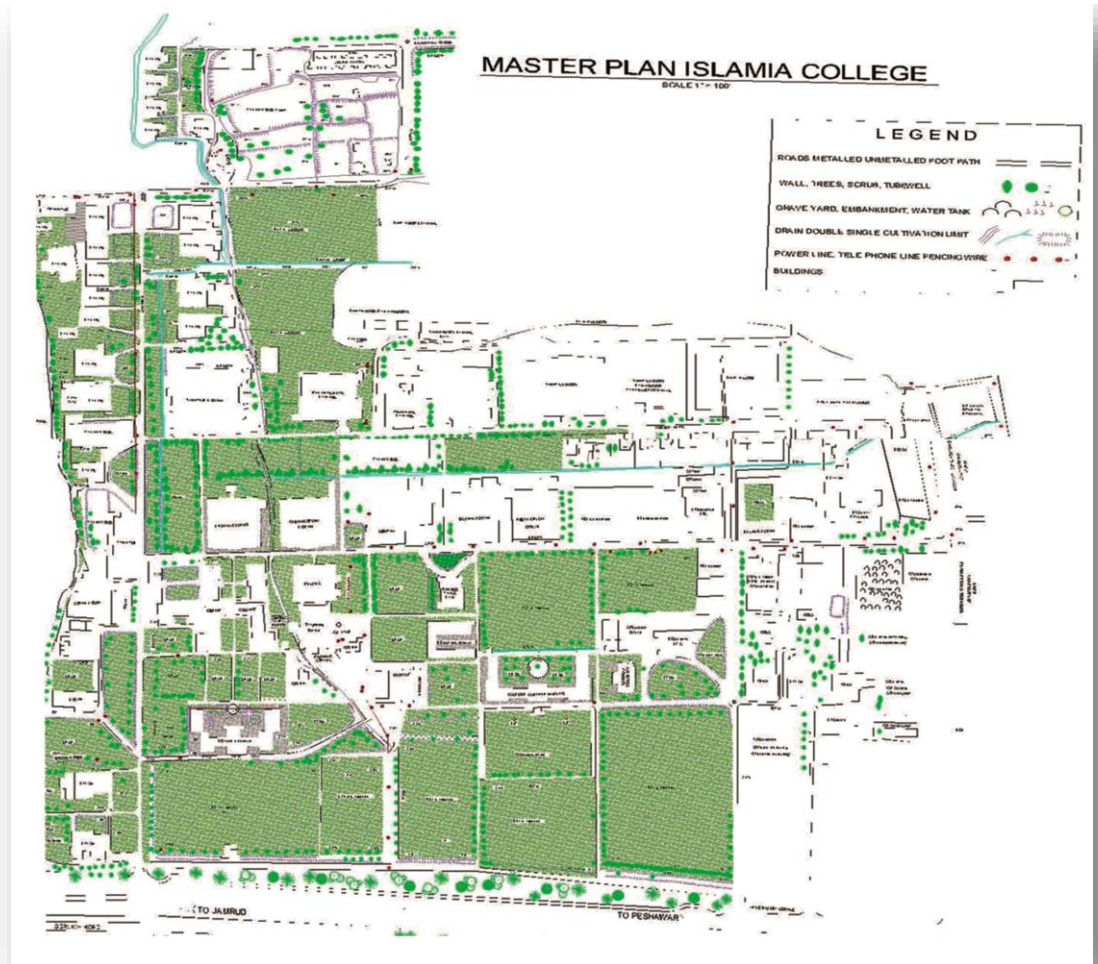


Figure 4: General lay out of the Islamia College Buildings Peshawar.

(after Lal Baha)

The college building has a magnificent facade facing Jamrud Road. This splendid building according to Professor A.H. Dani is peculiarly Curzonian with a touch of Mughal appeal in different components (Dani, 1975). The entire building gives a noble effect with its red brick color and variegated plans having light and shade effect central clock tower dome and small kiosks crowning the different corners (Plate 18).



Plate 18: Islamia College Peshawar, main façade.

In the middle of symmetrically balanced building of Islamia College a beautiful hall named after Sir George Roos-Keppel (Chief Commissioner of Khyber Pakhtunkhwa and founder of Islamia College) is situated which divides the main front of the building into two equal halves: eastern and western part. Both of these parts are further added with wings at the extreme ends north and south oriented (Plate 18). Both parts of the building are identical with proper orientation and ventilation. The Roos-Keppel hall serves the purpose of assembly hall. The central part is now used for class rooms whereas both the wings are used for administrative offices such as staff room, meeting halls, vice chancellor's office, accountant offices etc.

The Roos Keppel hall fronted on south by a porch has a rectangular clock tower topped by a dome. A Clock circular in shape is placed in a square block of brick (Plate 19). The clock tower dome is composed of shorter domical towers one on either side. Similarly, at the end of the eastern and western parts, twin towers rise above the parapet, having the same domical top. The central part of the building which consists of the Hall is a triple-storey building while both parts on the either side of the hall are single-storey building but at the front they appear as double-storey due to the dome chambers. Domes, cupolas and small kiosks crowning the building give an elegant look to this prestigious institution. On the front, side and back verandahs are provided with attractive arches which not only add strength and support but also add significant beauty and dignity to the building (Plate 20). At the

back the building provides a noble effect with its graded skylines and the insignia of Darul-Ulum (Plate 21) imprinted in the center of the visage. On the back wall six-sided stars are provided between the eave and windows. On the same side a fountain adds beauty to the upper terrace which leads to the well-planned lush green garden below (Plate 21). The path stretches right up to the road lying in between the college building and Harding hostel.



Plate 19: Islamia College Peshawar, Clock Tower.



Plate 20: Islamia College Peshawar, beauty of arches.



Plate 21: Islamia College Peshawar, Back facade with insigia wall.

Classification of Buildings:

4.2.1. Academic Block

- i) Class Rooms
- ii) Hall
- iii) Offices

4.2.2. Residential Unit

- i) Houses
- ii) Hostels

4.2.3. Mosque

4.2.4. Islamia Collegiate Building

4.2.5. College Library

4.2.6. Recreation Center

4.2.7. Khyber House

4.2.1 Academic Block

The main Islamia College building built in 1913 is rectangular-shaped structure which covers 179ft. x 318.10ft. area (Figure 5). The building runs on horizontal axis providing

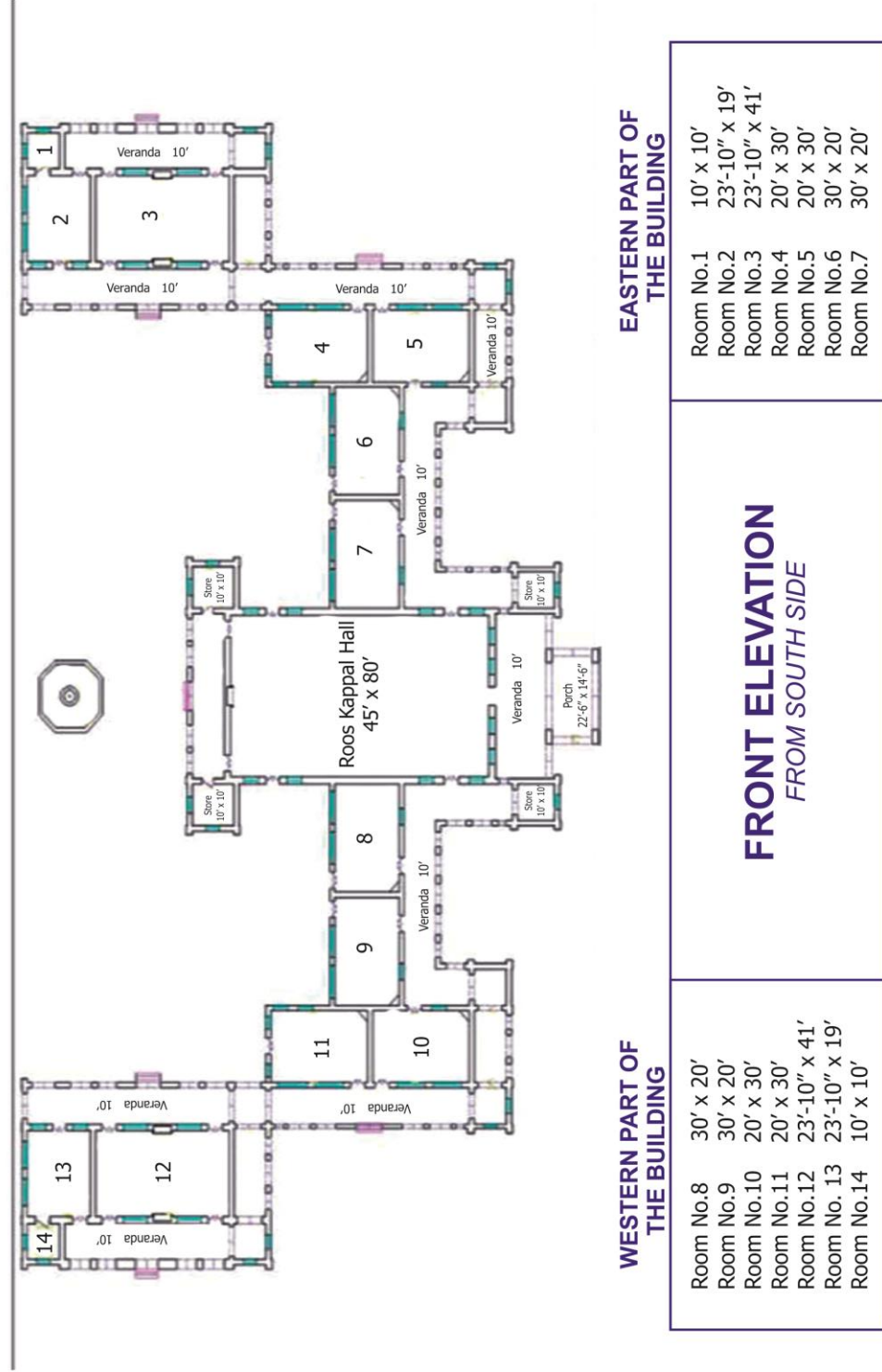
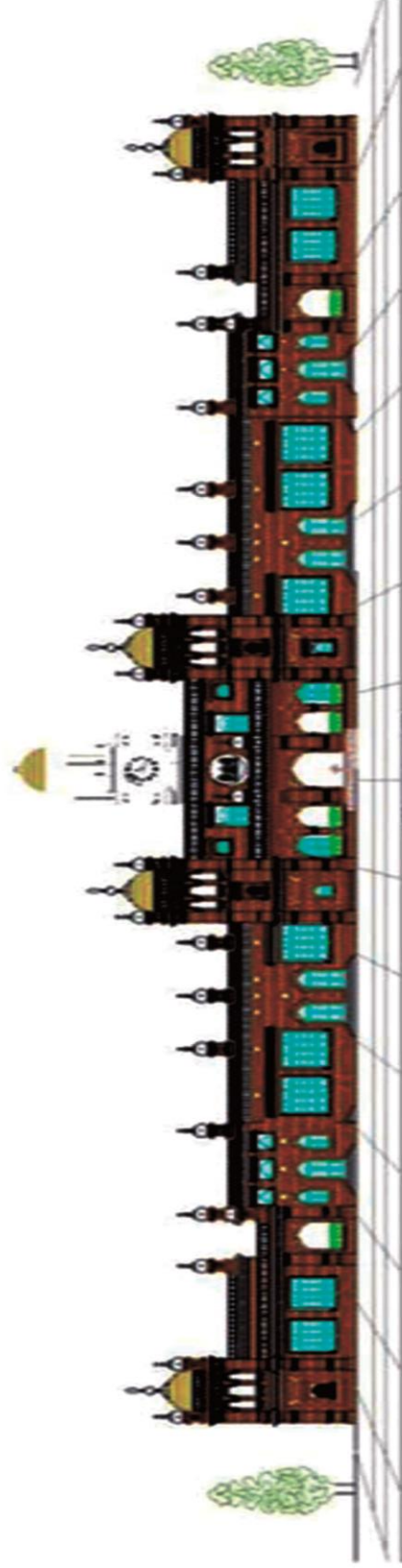
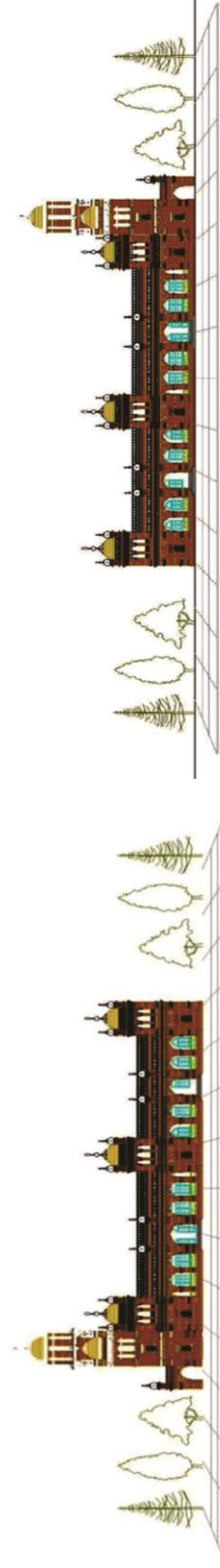


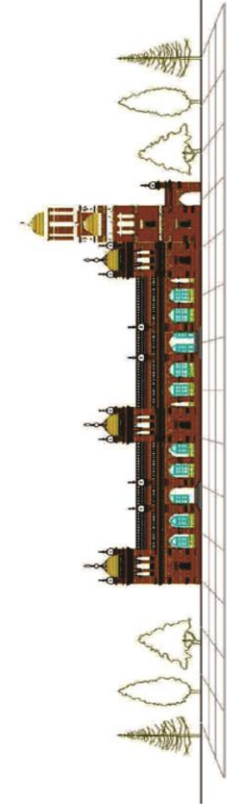
Figure 5: Islamia College Peshawar, lay-out of the main Building



FRONT ELEVATION



EASTERN SIDE ELEVATION



WESTERN SIDE ELEVATION

symmetrical spaces. The main building is constructed on a podium of four feet in height which is being approached by a flight of steps from all around. The building elevation is enriched by arched frames and arch-shaped entrances with similar cusped-shaped arches on the upper terrace. It comprises of single floors but at the front building appears as a gigantic double-storey structure due to the arched copulas and domed chambers at the upper floor. The middle part of the building structure becomes three storeyed with the addition of octagonal-domed clock tower.

The back façade of the academic block is a single-storey based on raised plinth level and opens into a wide courtyard. The courtyard is beautifully laid with rectangular bricks and fountain in the center (Plate 21). Hexagonal-shaped bricks are laid on side paths in front of classrooms. The class rooms and administrative offices provided in the academic block are well planned. At the front, and back sides lush green lawns with beautiful plantation is the supplementary beauty to the institution.

i) Class Rooms: Rooms are necessary requirement of any educational organization. Proper arrangement and number of rooms add to the significance of institutions. The building of Islamia College is symmetrical so the rooms provided on eastern and western parts are identical in all respects. There are total fourteen rooms built in this building with seven each on the eastern and western parts.

Rooms built in the building are marked with numbers for convenience as shown in (Map 5). Room no 1, 2, 3, 4, 5, 6, 7 on the eastern part and 8, 9, 10, 11, 12, 13 and 14 on the western part. These rooms serve different purposes at different times according to the requirement and need of the administration. The Table 1 shows data about the sizes and number of doors and windows provided in the main building of Islamia College. These are sufficiently large rectangular rooms to accommodate 30 to 40 students and serve as lecture rooms.

Table 1: Sizes of Rooms and No of Doors and Windows.

S.No.	Rooms on Eastern and Western parts	Size of Room	Windows	Doors
1	Room No. 1 and 14	10x10ft.	2	1
2	Room No. 2 and 13	23.10x19ft	4	2
3	Room No. 3 and 12	23. 10x 41	4	4
4	Room No. 4 and 11	20 x 30	6 (4 S 2 L)	2
5	Room No. 5 and 10	20 x 30	3	2
6	Room No. 6 and 9	20 x 30	3	2
7	Room No. 7 and 8	20 x 30	3	2

Room No. 1 and 14 are smaller rooms (10x10ft.) with single door and 2 windows. These rooms can be approached through the adjacent rooms 2 and 13.

Room No. 2 and 13 (23.10x19ft.) have 2 doors and four windows and verandah on the east and west side.

Room No. 3 and 12 (23.10x41ft.). These rooms are provided with four windows and four doors with verandah of 10ft. width on three sides east, west and south.

The rest of the rooms 4, 5, 6, 7, 8, 9 10 and 11 are of the same size (20x30ft.) with two doors and three windows each. In all rooms windows and doors are provided on opposite walls for cross ventilation and easy movement. In rooms fireplaces are added as an important element of architecture. To protect the rooms from extreme weather wide verandah, of 10ft. width are provided which run along the building line.

- ii) **Offices:** In Islamia College building offices were provided for different activities that need coordination between student staff and other authorities these administrative offices are placed in different spaces of the building.

The requirement has been changed with the passage of time currently on the eastern part room no. 2 (23.10x19ft.) is used as treasurer office and a small

adjoining room no. 1 (10x10ft.) is converted into bathroom. Room No. 3 serve as the office of *Cell for Peace and Conflict study*. Room No. 10 accommodates office of Assistant Registrar Academic. Room No. 11 is now covered to a committee room. Room No. 12 serves as the office of the superintendent accounts while room no 13 is the Vice Chancellor's office with the corner room 10x10ft. in size is the bath room. The front verandah facing east has been enclosed as shown in (Plate 22). The north eastern side corner of the verandah has been converted into student center. Verandah of Roos Keppel hall facing south having two rooms at the extreme ends serves as the offices of the chief proctor and the provost.



Plate 22: Islamia College Peshawar, enclosed verandah facing east side.

- iii) **Roos-Keppel Hall:** Roos Keppel hall of the Islamia College built in 1913 presents marvelous effect with pearl white color added to the wall, ceilings, columns, pillars and gallery inside. In this huge hall none of the wall gives the feeling of bareness because of tall alternative arrangements of columns and blind arches, fancy floral designed brackets for the support of gallery and geometrically

designed grill, diagonal line ceiling with intersecting beams and wooden floor (Plate 23).

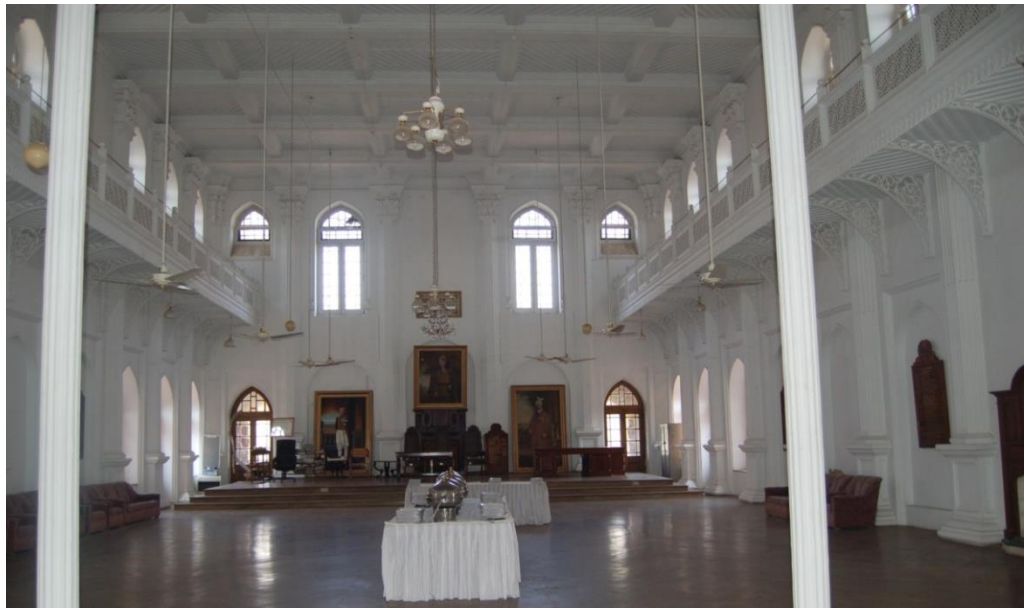


Plate 23: Roos Keppel Hall.

The hall is situated in the center of the huge building directly approachable from the porch on the south side (Plate 24). It is a rectangular structure of 80x45ft. with a height of 23ft. It is well-ventilated and easily approachable from all the four sides of the building. It has seven Gothic style pointed arched doors. The main entrance door at south side is built in the middle of the wall flanked with two windows on the either side. The other six doors are provided on the extreme ends of walls to the north, west and east sides. The doors on the extreme end of north side wall are basically provided for the approach of the stage. The rest of the four doors are on east and west side walls, two on each side, with windows on their sides. All this bestows a beautiful balance of Colonial and Gothic architecture.

A space with proper ventilation is one of the major contributions to the architecture. This element is well-provided in the hall with twelve large windows and 20 ventilators. They not only make the hall airy and well-lighted without artificial electrical devices but also provide beautifully balanced interior and exterior appearance. All the doors and windows are placed in the arched-shaped structure

enclosed in rectangular frame. Blind arches framed in a rectangular structure create a pleasing and continuous rhythmic effect throughout the walls.



Plate 24: Islamia College Peshawar, entrance of Roos Keppel Hall.

The hall structure is supported by ceiling beams and beautifully decorated columns with floral decorated capital (Plate 25) fluted shaft and high base. Total number of columns supporting the structure of hall are 26 with additional four corner columns in the hall. All the columns are built in or fused in the wall which add in strength and support the ceiling and give adorning height and beauty to the hall without destroying the eye view or creating any obstruction. Two pillars in front of main entrance door for the support of Gallery are added (Plate 26) with their base and screwed in floor (Plate 27).



Plate 25: Islamia College Peshawar, decorated capital.



Plate 26: Islamia College Peshawar, supportive columns for gallery.



Plate 27: Islamia College Peshawar, screwed column for hall gallery.

In the hall a rectangular wooden stage on the north is built directly opposite to the main entrance. The stage is 37.2ft. x 11.8ft. and 18 inches in height. The stage is approached on three sides by three steps of 6 inches to cover the height of the stage. A wooden fire place in the middle of the stage with beautiful wood carving in floral design is also provided. Two other fire places are in the middle of east and west side walls with black marble base (Plate 28). Diagonal lines in the wooden floor add beauty to the hall (Plate 29).



Plate 28: Islamia College Peshawar, fire place with marble base.



Plate 29: Islamia College Peshawar, wooden floors in Roos Keppel Hall.

Hall's Gallery: To increase the capacity of audience in the hall a gallery is also built, directly opposite to the stage above the main entrance of the hall. This gallery is approachable by a door built in an enclosed chamber outside the hall (Plate 30 and 31). This beautifully decorated gallery is supported by sixteen floral designed brackets (Plate 32) and grill in geometrical design (Plate 33) to enhance the beauty of the hall. An area of 17.6x45ft. at south side and 80x5ft. towards the east and west sides is provided.



Plate 30: Islamia College Peshawar, enclosed chamber for gallery stairs.

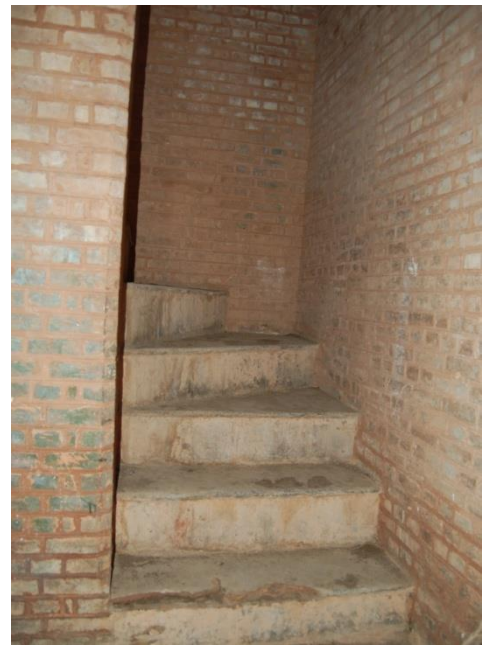


Plate 31: Islamia College Peshawar, stairs for gallery.



Plate 32: Islamia College Peshawar, brackets for the support of gallery in Roos Keppel Hall.



Plate 33: Islamia College Peshawar, grill for the gallery in Roos Keppel Hall.

Verandahs enhance the beauty of an area and serve great purposes for weather control. On the South (front) side of the hall a 10ft. wide verandah is added. At the extreme ends of the verandahs small square rooms of 10x10ft. are added. The room on the front at the west side of the verandah provides a stair case which leads to the gallery in the hall and to the clock tower as well (Plate 31). These stairs are not as wide as needed for any educational or public building. This room is ventilated through a terrecota fret work ventilator. (Plate 34)



Plate 34: Islamia College Peshawar, ventilator in stair room.

At the north side of the hall the back verandah of 10ft. width is provided with two small rooms on the extreme ends of verandah the same as the front structure. These 10x10ft. size rooms serve as offices.

4.2.2 Residential Units

To facilitate the staff and the students of Islamia College residential facilities were also provided on the north and northeast side of college building. Principal's residence was provided at the west side of college building while hostels were built parallel to the Roos Keppel road (Figure 4).

- i) Housing Units:** In Islamia College residential space for the Principal and staff of the college was provided to the west of the College building. The residence for the principal is provided in center of lush green ground. The front façade of brick structure faces the south. This front verandah and the parrapet wall is in slight curve. The main entrance door in front verandah opens into a reception area which leads to a corridor (Plate 35). This long corridor provides approach to rooms. The reception area and corridior is provided with large ventilators near the ceiling for light and ventilation. Same type of ventilators are provided in the rooms too. The corridor is supplemented with cupboards on either ends of the door. Towards the north of the corridor a door opens into a small passage leading to another verandah facing towards the east, outside the building (Plate 36). This verandah is in front of kitchen, pantry and store fronted with a beautiful lawm. A

wooden staircase is built at the edge of building though there is no second-storey (Plate 37). At the back of the building another small verandah for back door of rooms and bathrooms are provided. Flooring in some areas is still in original brick whereas most of the areas like rooms, bathrooms, corridors and reception areas are replaced with marble. The front and back verandahs are still of bricks. The square-shaped columns (Plate 35) to support verandah are shorter in height as compared to the main house ceiling. The ceiling is a simple beam structure. Doors and windows are rectangular in shape with trivial curve at the top and painted in white color.



Plate 35: Islamia College Peshawar, Residential area.



Plate 36: Islamia College Peshawar,
corridor in residential area.



Plate 37: Islamia College Peshawar,
wooden stair case in residential area.

ii) **Hostel Buildings:** The Islamia College, being mainly a residential institution of all the students, with the exception of a very small number of day scholars, provides accomodation facility in the form of hostels. Initially three hostels were erected but with the passage of time and increase in the demand the number is now raised to 11 hostels. List of hostels and foundation date is given below:

1.	Butler Hostel	1913
2.	Harding Hostel	1913
3.	A. Q. Manzil	1914
4.	Oriental Hostel	1914
5.	R. Shah Ward	1914
6.	Chelmsford Hostel	1917
7.	Osmania Hostel	1932

8.	Tribal Hostel	1957
9.	Kushhal Hostel	1972
10.	Turangzai Hostel	1991
11.	ABM Hostel (Arbab Behram Menzil)	2002

The architectural style of these hostels is uniform. All the hostels are facing towards the south to the college building side except Rahim Shah Ward which faces towards the east. They are rectangular-shaped in plan (Plate 38). The hostel buildings housing rooms on four sides with a central green belt in charbagh style having paved pathways intersect each other at the center. The crossing of the pathways has a fountain (Plate 39). All the hostels have only one entrance on the south with the warden's quarter on the upper portion of the porch at south side (Plate 40a,b). There are more rooms towards the eastern and western side of the hostels with the provision of larger rooms on the south side. Two large rooms one common room and one dining hall are provided towards the north side. In the dining hall a door opens at the south side for kitchen.



Plate 38: Islamia College Peshawar, hostel buildings.



Plate 39: Islamia College Peshawar, inner plan of the hostel.

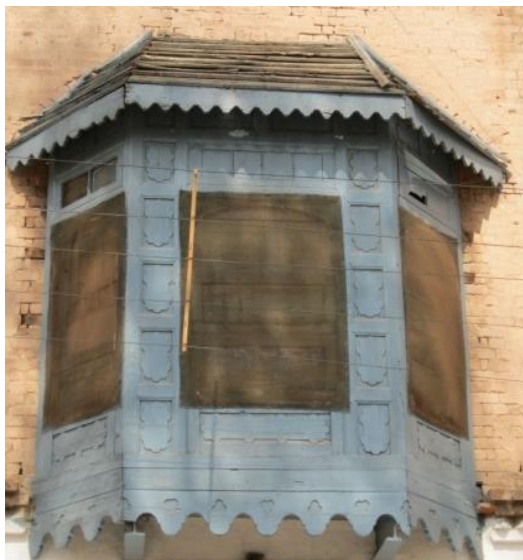


Plate 40a: Islamia College Peshawar,
jharoka window of the hostel
(Outer View)



Plate 40b: Islamia College Peshawar,
jharoka window of the hostel
(Inner View)

Verandahs are provided on four sides of the hostel building in front of the rooms. In some cases, the level of the south side is high as compared to the north side. It was common for Mughal gardens and later on adopted by the British engineers to have construction on terraced surfaces. One of the reasons for this level was that all the drainage pipes are towards the south.

The entrance of the hostels are provided with gates and most of the gates are decorated with three petal flowers (Plate 38) at the upper edge. Above this a balcony-shaped Jahroka window is provided. This window extends outward creating an over hang with wooden scalloped edge at the bottom and top of the window (Plate 40a). These windows are adopted from Sethi houses and called as *Aroosa* in which the pans stack in the upper portion of the window and create an open space at both ends of the windows. From the outer portion they are covered with wire guaze. The inner portion of this window space is used as the warden's room shown in (Plate 40b). Other windows provided in the hostels are very simple with ellipse-shaped top. Ventilators are constructed in the upper part of the rooms separate from windows as shown in (Plate 38). They are rectangular-shaped, covered with wire guaze in semi circle shaped box. Simple wooden double-doors are used for rooms with glass inclusion at the upper part of the door.

Arches in semi circle shape are provided in front of verandah (Plate 41). Tuscan type of columns are used to support these arches. Ceilings are constructed high with 18 inches thick walls to protect the building and rooms from weather effect. The height of the verandah ceiling is low as compared to rooms. Eaves in saw tooth pattern are provided. Brick-paved floors are laid in these hostels (Plate 41). All the rooms are furnished with necessary furniture. Openness and fresh environment and provided through play grounds.

All this is a well-proportioned set of buildings with spacious play grounds and wide roads. The vision of Roos Keppel and Sahibzada Abdul Qayyum's far-sightedness while planning and inspiring this spacious concept speaks volumes of their greatness. They showed their keen interest during the construction and provided valuable suggestions where needed.



Plate 41: Islamia College Peshawar, semi circle arches.

4.2.3 The Mosque Building

Islamia College Mosque is situated on the main road moving towards the east from main college building. It was the first building erected in connection to Islamia College Peshawar. The foundation stone of the mosque of Darul-Ulum was laid on the auspicious day of spring of 1911 by Haji Sahab of Turangazi. Khan Bahadur Haji Karim Baksh Sethi a well-off merchant (Lal Baha, 2013) and religious citizen of Peshawar city bore the entire cost of the mosque construction on the request of Sahibzada Abdul Qayyum Khan. Mian Haji Mistari of Gunj, Peshawar was the designer and supervisor of the College Mosque. The actual cost of the Mosque was Rs. 1,91,455.²⁹

The graceful building with its white plastered color symbolizes the simplicity and purity of Islam. It is designed in usual orthodox style, having an open courtyard and the main prayer chamber in the west with four towers rising above the parapets at the four corners of the chamber, and running merlons (Plate 42). The plan is rectangular measuring

²⁹ Islamia College Building Register. p 37.

14.20x6.20m. (Durrani, 2005). The mosque area is enclosed by 5ft. high-bricked boundry wall having geometrical shaped holes in the entire wall. Entrances on three sides are provided except the west. These entrances have a large arched alcove topped by minarets on either side with smaller ones in the centre. A series of rooms and abulation area is provided on the eastern side. The bricked courtyard having a fountain in the mid is now paved with hexagonal shaped marble tiles.



Plate 42: Islamia College Peshawar, Mosque.

The main prayer hall chamber has five arched-doorways (Plate 42) approaching through the courtyard. These pointed cusped-shaped arches are of the same size except for the outer two which are smaller in height. The whole facade is embellished with floral and geometrical motifs in painting (Plate 43). The wooden doors of 8ft. width are provided for entrance to the hall. The interior of the hall is separated into five segments by means of multi-foil arches supported on heavy piers (Plate 44). Three of them are covered by fluted domes. Inverted lotus flower is dominant in domes and finials (Plate 45). In the hall chamber on the north and south side four doors with windows and ventilators on either sides are also provided as shown in (Plate 44). Two windows on the west side are built. A door and two windows on either side are enclosed in blind arch. The pillars in

the mosque are 2ft. high brick based while the rest of the pillars are plastered and decorated with paintings.



Plate 43: Islamia College Peshawar, geometric motif in Mosque.



Plate 44: Islamia College Peshawar, interior hall area (Group of doors and windows).



Plate 45: Islamia College Peshawar, inverted lotus flower and finels.

The hall is embellished with colorful decoration in foral, faunal and geometrical designs interwoven with arabic calligraphy (Plate 46). The calligraphic design is simply applied to the boss and soffit of arches of bay in different manner such as Nastaliq and Suls.



Plate 46: Islamia College Peshawar, mosque decoration.

The prominent colors used in the entire painting style is white, yellow, blue and chocolate with golden touch. This color scheme has been changed with the passage of time by the Islamia College authorities.

4.2.4 Islamia Collegiate School Building

Islamia Collegiate School faces Jamrud road and is situated further towards the east the on the main road of Islamia College a few metres away from the mosque. Harcourt Butler inaugurated the opening ceremony of the school on Saturday 5th of April 1913 (Lal Baha, 2013). The school building is very simple in design as compared to the college building. The school has eastern and western wings. A distance from the main road is created through large play grounds, like the famous “Star Ground” (Map 4) where Quaid-e-Azam addressed the student gathering of the college and school twice in 1945 and 1948 before and after the creation of Pakistan.

The building is in red brick color. The entire construction cost was Rs. 1,49,620 till the entire block was completed in 1916.³⁰ The main Islamia Collegiate school building embraces classrooms, library, science laboratories, hall and administrative offices. The composition is a single-storey building with the principal’s office, being the central part and the rows of classrooms moving on either ends with a bricked verandah in front.

The building is crowned with copulas at four corners and running merlons, parapet and eaves decorated with cut and dressed red bricks. At south side between two copulas a flat slab painted in red, blue and white ending into a pinnacle is inserted with Islamia Collegiate School in Urdu inscription. The column and the semi circled arches and ellipse shaped doors and windows of wood bespeak of the mastery of details of architecture. The verandahs are screened with inter-lacing arches (Plate 47). The interior and exterior reflects both simplicity and the new European influence. The school building creates a unique composition and highly textured facade, which continue to be lively and charming.

³⁰ Islamia College Building Register. p 34.



Plate 47: Islamia College Peshawar, Collegiate School.

4.2.5 College Library

One of the assets of Islamia College Peshawar is its Central Library. It is one of the oldest libraries in the province of Khyber Pakhtunkhwa that was established in 1913. The library is situated on the main road of the campus opposite to mosque building (Plate 48). It is accessible on equal distance from all the departments as well as hostels of the Islamia College. It is one of the richest academic libraries in Khyber Pakhtunkhwa, containing 90,000 books and 1261 manuscripts.



Plate 48: Islamia College Peshawar, College Library.

It is a separate building covering an area of about 13000 Sq. ft. The building consists of two big halls and nine adjacent rooms. One hall and four rooms were added to the library in 1972. Recently two separate computer labs for boys and girls have also been allocated.

The building is crowned with copulas at four corners and running merlons, parapet and eaves decorated with cut and dressed bricks (Plate 49). At the south side between two copulas a flat slab embellished with inverted lotus flower ending into a pinnacle was inserted for any inscription. The building is provided with verandah at three sides south, east and west. Doors and windows are rectangular in shape with slightly ellipse shaped at the top edge. Ventilators are built with these doors and windows. Decorative windows are constructed at the extreme ends of south verandah. Pointed arches add to the beauty of the building with square-shaped columns. Towards the west end a window is enclosed in pointed arch and rest of the arches are blind arches. In the middle part of the column an elongated niche is given (Plate 50). Water sprouts of lion shape are added as decorative and functional elements of the building (Plate 51).



Plate 49: Islamia College Peshawar, running merlons, parapet and insignia slab.



Plate 50: Islamia College Peshawar, niche in Library wall.



Plate 51: Islamia College Peshawar, water shoots in Islamia College.

4.2.6 Recreation Center

Recreation center for college students is provided at the back of Islamia College, The Collegiate School and Mosque building on the hostel road. The building is simple in construction with octagonal front square-shaped chatrus with running parapets making it a series of Islamia College building. Doors, Windows and ventilators are rectangular in shape with additional wire gauze doors. The front door is 6x8ft. in size while the other doors in the east and west side are 3x8ft. in size. Windows are added on either sides of the door. The whole building is surrounded by verandah supported by simple-bricked columns with square base and capital. The ceiling of the verandah is lower than the hall and is extended by a simple eave and parapet (Plate 52). The building is surrounded by front lawn and a boundary at north, east and west.



Plate 52: Islamia College Peshawar, Recreational Center.

4.2.7 Khyber House

The composition of Khyber House is a single-storey building. The building is used for administrative purposes and for the post office. The main entrance in the center provided with semi circled arch. Inscription plate with Khyber House 1917 is placed at the top of main gate with two copulas on either side (Plate 53). The gate for inner area is provided at a setback distance of 6ft. from the verandah at both ends. The verandahs are screened with inter-lacing pointed arches and square column (Plate 54). Rooms provide doors facing towards road. Ellipse-shaped doors, windows and ventilators in wood are added to the structure. There are eave brackets in red bricks throughout the building. Flooring in brick is in a ghastly condition (Plate 54).



Plate 53: Islamia College Peshawar, Khyber House.



Plate 54: Islamia College Peshawar, verandah in Khyber House.

The history of Islamia College was envisioned by the eminent leaders and was originally intended for the education of the youth in their own province. Both foresighted leaders, managed to put a distinctive mark on the city of Peshawar fusing the rich native traditions

of the region with the technological and spatial concepts of the west. The building represents a fusion of these two streams and also has value in the context of the present times. In its beginning it only had main college building, mosque, collegiate school and hostels but with the passage of time further additions were made to fulfill the student requirements.

The genius of artistic approach of Islamia College buildings is incomparable. The main building plan is surrounded by large lush green ground creating a distance between the main road and building. The spaciouly planned building is an inspiration from the Mughal period. The loftiness of the building evokes a sense of wonder. The sky and the greenery in the background of building defines the domes and graceful line of chatrus. The construction represents the living architecture that bears the magnificence to suit the climate of the region.

The building is fully designed to facilitate and proclaim the power and glory of the rulers. To humanize the scale of the exposed brick exterior; the building facades at all sides were sub-divided into panels. And the plinth, beam and sill levels were heighten through intricate brick work of varying-sized ornamental bricks, terracotta jali work and decorative windows for providing ornamental embellishments grace and texture to the building. The building is fully designed to facilitate and proclaim the power and glory of the rulers.

The porch is embraced with massive arched entrances at east and west. The clock tower dome with smaller domes and chatrus delineated in brickwork around is provided to proportionate and control the visual effect. The eave brackets are intricately detailed in red bricks for the arches and the column with the occasional use of elaborate *jhorakas* finished in jali bespeak of the mastery. The verandahs are screened with cusped and ogee arches of varying sizes. The brickwork is of high level of skill; the overall effect is one of a building strong in tradition yet fulfilling the then contemporary demands. The building is created in a unique composition and highly textured facade, which continues to be lively and charming.

Islamia College has changed its building make-up over the years. Separate academic blocks which now hold classes, were constructed in later years adopting the same construction style with a little variation.

Chapter 5

ARCHITECTURAL ELEMENTS OF THE COLLEGE BUILDING

5.1 WALLS

A wall is a vertical, supporting, solid surface that separates building space into different areas according to the need of the occupant. It can be defined as the enduring vertical structure having length and height greater than the breadth and creating continuous elements except the interior elements added for completion of structure (Benjamin, 1975). Walls perform the following main functions:

- protection and privacy
- division of interior spaces
- supporting ceiling and other elements of interior spaces
- holding all the electrical wiring and plumbing pipes

A wall is one of the major elements of interior design without which interior space cannot be completed. They give protection from exterior elements like weather, animals and thieves and at the same time provide privacy. They divide interior space into different areas for various purposes. They are the major structures which support ceilings and give space to doors, windows, ventilators, floors and fireplaces. In addition, the wall may house various types of [electrical wiring](#) or [plumbing](#) pipes and all the electrical outlets which are usually mounted on the walls. They are generally made of clay, [stone](#) or [brick](#).

In early history walls were required as a fortification of every city. Indus cities are one of the world's oldest cities within fortified walls. The Assyrians developed defensive walls (Fletcher, 1975).

There are three major types of structural walls:

- **Exterior boundary walls:** In civil engineering and architecture, the term exterior wall also known as curtain wall refers to the facing of a building which is non load-bearing but functions as front face, embellishment, or protection and privacy. They are usually shorter in height and run around the property line to demark the area of property. They are usually of single brick.
- **Building walls:** These walls support the whole structure of the building. They are load-bearing walls. The main purpose is to support ceilings, roof and other storeys. Now-a-days building wall structures are built with cavities for insulation materials. These materials help to control the outer climatic effect and sound insulation. In addition, these building walls give space to the plumbing pipes (water , gas and all types of ducts), electrical wiring and outlets mounted on walls
- **Separating walls:** They are also called as interior walls or partition. They serve the function of dividing the building plan into smaller working areas and keeping the privacy. They also hold the load of ceiling. These walls frequently serve as work of art for each room when displayed with texture paints, mosaic work and display of wall hangings and pictures.

5.1.1 Walls in Islamia College Buildings

In Islamia College building no boundary wall is built at all. The main building wall is away from the road side. The bricked-walls of the building give strong impression of solidness and strength. But all over the Islamia College building the use of arches reduce the blankness and fortification of the structure. Walls of the building serve both functions of exterior and boundary wall.

- a) **Exterior Walls:** Brick is the major construction material used for walls with lime mortar (Plate 55). The thickness of the wall is 18 inches. On the ground floor the columns and arches divide the whole area into different sections. Brick walls are built for different rooms and other areas.



Plate 55: Islamia College Peshawar, a wall.

The first floor built for the gallery of Roos Keppel Hall has a continuous exterior wall. Ventilators and water drainage pipes are added to it. The friezes of the wall at ground level and first floor are decorated with brick work. The parapet wall, merlons and brackets in cut brick work enhance the beauty and add texture to the wall (Plate 56). The exterior wall at the back is decorated with stars in embossed technique in high relief. Rectangular sunk panels are added above the window and just below the brackets devoid of any decoration. Such kind of panels are usually added for decoration or any inscription and to overcome the plain distance.



Plate 56: Islamia College Peshawar, brick work of exterior wall.

- b) Interior Walls:** Walls in Islamia College are quite simple without any extra decorations as it is an educational institute. In the class rooms two larger walls have doors and windows while the other two walls are plain without any architectural element or decoration. In each room a fireplace is added in the corner or center. Walls are simply plastered. The lower walls of the class rooms are recently marbled dados upto 3ft. of height and were originally simply painted. Walls in offices, stores, library, hostels, mosque, Islamia Collegeiate School and residential area are of brick with plaster coating and white distemper.

Interior walls of Roos Keppel Hall give a feeling of purity. They are simply plastered and coated with white distemper. Walls are 18 inches thick. Doors, windows and fireplaces are placed on walls at equal intervals to create balance. The white-colored carved molding décor with blind arches and built-in columns on the walls have increased the aesthetic value of the walls. The finishing of the walls is smooth. The arch lines of interior elements create beauty and symmetrical balance. In addition, columns built in walls add to the strength and beauty of the wall. The height of the wall from floor to ceiling is broken

down through the gallery which is provided as additional space for hall (Plate 57).

In the mosque the white-plastered walls are skillfully decorated with geometrical and floral decoration. The blue, yellow, maroonish brown and mustard color creates stunning momentum. The walls towards the east, south and north have sets of doors and windows.



Plate 57: Islamia College Peshawar, interior wall of Roos Keppel Hall.

5.2 FLOOR

A floor is the surface in any place for comfortable movement of people or vehicle. They are surfaces which separate a building into various levels or stories (Benjamin, 1975). Floors differ from mud or clay in a cave to many- coated surfaces using contemporary technology. Variety of floors have been in use since ages like stone, wood, brick, marble, tile, or any other material that provides smooth surface and can hold the weight of a person or vehicle.

The floor can be defined as continuous supporting surface extending horizontally throughout a building and comprise one level or stage in the structure; a storey or it can be explained as the platform or prepared level area for a specific use.³¹

The main function of the floor is to

³¹ <http://www.thefreedictionary.com>

- provide horizontal even surface.
- bear loads imposed on them by either living or non living.
- avert dampness rising from the soil into the structure.
- provide a degree of thermal insulation.
- provide a suitable wearing surface.

The upper floor performs two functions, one as a ceiling to the lower floor and the other as moving and working space for the upper storey. The space flanked by floors and ceilings also accommodates the building services fixtures such as electrical, telephone wirings etc.

Classification of Floor: Floors can be classified into two sections:

- ground floor
- upper floor

The earliest floors used in interior structure consisted of the raw ground. The ground was repeatedly cleaned and leveled off prior to the construction around it. Inexpensive ground dust or dirt was the floor surface. On the ground hay or straws were used to soften the uneven ground surface. Another method to make the ground smoother was to drop waste and refusal of animals directly on the floor, and then walk over it to compact it down into a firm surface coating. Sometimes treated animal hides were also placed above the ground to provide some level of padding.

There were various alternative methods to ensure that the floor could be presented in many a pleasant ways. Decorative colorful sands on dust floors gave a new twist to the traditional Indian floors. Floor construction methods developed with the passage of time. Natural stone material was being used across the ancient world. In this technique small rounded stones were fixed with mortar in order to fix and create beautiful patterns. The royal families used marble in their palaces as a sign of status. Sun dried mud bricks were used as one of the oldest material of construction. In the beginning the mud deposits near rivers cracked and formed blocks that could be used in unfinished building materials for huts for weather protection. In 4000 Bc. sun-baked brick were used in the

ancient city of Mesopotamia.³² The sun dried bricks were replaced by burned bricks in about 1500 Bc. with the discovery of principle of controlled heat in kiln.

Wood was once an antique material used for floor covering. In the beginning, coarse flat timber was placed across the floor. Then it was smoothed off by rubbing it with metal or stone. Later on, varnishes were applied to help smooth the floor and make it last longer. Some thousands of years ago the Romans introduced ceramic tiles for making floors. Ceramic tiles were commonly used throughout the world.

Floor material can be divided into three major groups:

- **Hard or Masonry Floors:** Masonry is the construction material from single unit set in and they are bound together by mortar; the term masonry can also refer to the units themselves. The common materials of masonry construction may be natural or man-made. Among natural materials come stone, marble, granite and lime stone, while man made are bricks, concrete blocks, ceramic tiles, glass etc.
- **Wood Floors:** Wood is also natural and hard material. Like other natural materials no two pieces of wood are alike which enhances the beauty and style of the floor. Unlike other materials, wood can conserve the warmth of the floor. It is durable and with the right maintenance it can last many years. In addition, it is easy to clean. Any type of wood like Maple, Pecan, Beech, Cherry, Oak, Pine, Birch, Walnut, Hickory and many others can be used. Lamination is another floor covering type that seems similar to hardwood but is made with a plywood or medium density fiberboard with a plastic laminate top layer. Laminate flooring is available in many different colors and patterns which can resemble different woods or even ceramic tiles.
- **Resilient Floors:** Resilient flooring is man-made material and has some elasticity to bend. Before laying these floors proper leveled surface is needed as they are thin sheets or tiles that can bend or deshape. It includes many different manufactured products which includes vinyl sheets, vinyl tiles, rubber and

³² britannica.com/EBchecked/topic/376897/Mesopotamian-art-and-architecture Written by [Seton H.F. Lloyd](#)

linoleum. They are available in tile and sheet form. They are used where sound is not needed like floor used for dance or sports events.

5.2.1 Floors in Islamia College Buildings

In Islamia College principally brick flooring was used but with the passage of time most of the old floors have been replaced with different types of marble floors. The floors in the building and around it can be divided into three groups:

- a) **Floors in Verandahs:** Verandah floors in front of Roos Keppel Hall are in Black and white checkerboard tiles (Plate 58). While both ends of verandahs of this checkerboard floor have now been replaced by red and white marble (Plate 59). Same checkerboard tiles are used in the entrance of hostels. In the eastern wing a verandah is renovated (Plate 60) representing a geometrical design but the style is quite different from the original design. Originally these floors were bricked.
- b) **Roos Keppel Hall:** The floor in Roos Keppel hall is quite different from other places in Islamia College. Wooden floor is constructed in this area (Plate 61). It gives a traditional look to the area with a feeling of warmth. Wooden planks are placed in diagonal style to create interesting pattern with color shading and natural grain line.

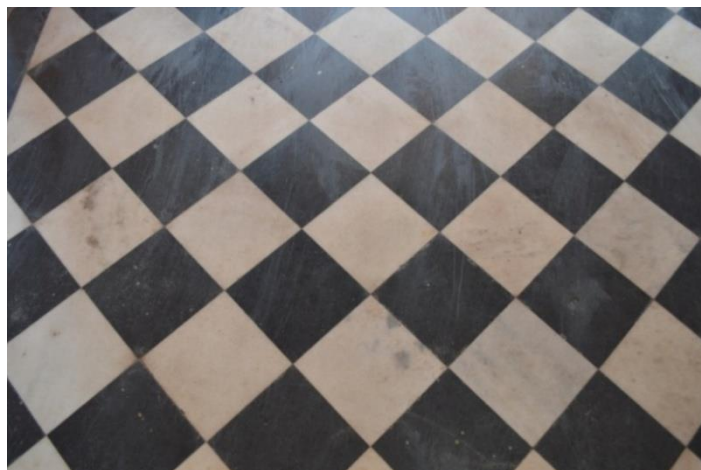


Plate 58: Islamia College Peshawar,
checkerboard floor in front of Roos Keppel Hall.



Plate 59: Islamia College Peshawar,
marble floor of side verandahs of Roos Keppel Hall.



Plate 60: Islamia College Peshawar, verandah floors.



Plate 61: Islamia College Peshawar, floor in Roos Keppel Hall.

- c) **Floors in Other Areas:** The floors in class rooms and offices are now not in their original brick material as they have been replaced by marble tiles. Still there are places where original laid flooring exists. The path (Plate 62) leading to the ground at the back has stairs and platform of brick work. The surface has become rough and uneven with the passage of time. The design in which the bricks are laid is geometric in style. The design is created by placing four horizontal and four vertical bricks. Another type of hexagonal brick tile floor is shown in (Plate 63). These types of tiles are used in different areas of the college like in the back courtyard, pathways in front and side verandahs. Pathways leading to other blocks of Islamia College, floors of hostel, Islamia Collegiate School, Khyber house and library are laid with bricks in simple style (Plate 64). In Islamia College Mosque floors were originally brick floors but now the courtyard is marbled in hexagonal shaped tiles (Plate 65). In residential area only front and back verandahs are still in their original brick flooring while the floors in interior are marbled by replacing bricks.



Plate 62: Islamia College Peshawar, brick floors in other areas.



Plate 63: Islamia College Peshawar, hexagonal floor tiles.



Plate 64: Islamia College Peshawar, brick floors in hostels.



Plate 65: Islamia College Peshawar, floors in hostel.

5.3 DOORS

A door is a solid pane item that can be opened and closed so that movement could be made from one place to another. It is placed in all types of buildings. Types of doors used in any space depend on their use, such as doors for rooms and garage are different from each other, keeping in view their usage.

The function of doors is:

- movement of all living and non-living things through it.
- maintaining the privacy and protection of any area.
- controlling the air movement such as to keep cold or hot [air](#) outside for maintaining the room temperature such as the door of a [refrigerator](#).
- act as a barrier to light and noise.

5.3.1 Types of Doors

There are different types of doors used in different areas according to their use.

- **Hinge Doors:** Most doors have hinges along one side for the movement of door to turn away from doorway in one track. The axis of rotation is typically vertical.

In some cases, such as kitchen cabinets, garage doors, the axis may be horizontal, having hinges at the top of the door.

Hinge doors are sub-divided into three categories:

- **Single Door:** Single door is one of the door type having one panel which opens inside or outside in any space. It has hinges on one side which help in the swing of door. The hinge may be towards left or right side of the door depending on the requirement or interior layout.
 - **Double Door:** Double door is one of the most common type of doors used throughout history. They were used in ancient Greek and Roman buildings. In this type two panels of doors are attached through hinges. Both panels swing through middle towards right and left axis making a wide free movement draft.
 - **Swinging Doors:** A swinging door has special hinges that permit it to open either outwards or inwards, and is usually sprung to keep it closed.
-
- **Folding Doors:** Folding doors are also a type used in historical buildings. It is also called as bi-fold doors. It is a door unit that has several sections, folding in pairs. It is a door type built for larger space or where larger open space is required. It might be found as the ceremonial door of a tomb, cathedral or a large door in a garage or barn.
 - **Sliding Doors:** They are types of doors resembling to folding doors with the only difference that they have a single panel which slides on the track by wheels. They may move in front of the wall or hide in the wall pockets creating a larger open space.
 - **Blind Door:** Blind door also called as a false door is really a part of the wall. It is usually installed in a room to create balance.

5.3.2 History of Doors

The history of doors is untraceable. The major reason of this evolution was safety and security. For protection purposes the pre-historic men enclosed their caves with rocks to keep the animals away. Later on they learned the art of door making. Different types of materials were used for the construction of doors such as metal, steel or wood.

Paintings of the Egyptian tombs indicate the use of single and double door made of wood. The earliest doors were in wood. Type of woods like elm, cedar, oak and cypress were used while some of the doors appeared in silver or brass. The antique Greeks and Romans used different types of doors such as single, double, sliding and folding doors.

5.3.3 Door Styles in Islamia College Buildings

In Islamia College double panel doors are prevalent. Sizes of the doors vary depending on the use where they are placed. They are divided into four major types:

- a) **Wooden Panel Door:** Wooden panel doors are made up of full wood panes which make vision and ventilation impossible when closed. In the college building these types of doors are used in smaller spaces like stores. Arched style wooden panel door (Plate 66) is provided in front verandah as an approach to the stair case chamber used for the gallery in Roos Keppel Hall. Another door of the same style is used at the opposite end of the verandah for a store. The rectangular panel door sizes are 3.6 x 6.8ft with frame. While upper fixed arched portion is 2.9 x 3.6 ft.

Single wooden panel doors are provided in kitchen and bathrooms of residential area and hostels. They are rectangular in shape without any arch in hostels while in residences the rectangular door frame is inserted in an ellipse-shaped wall at the top. This ellipse shape is filled with plaster and painted in white.

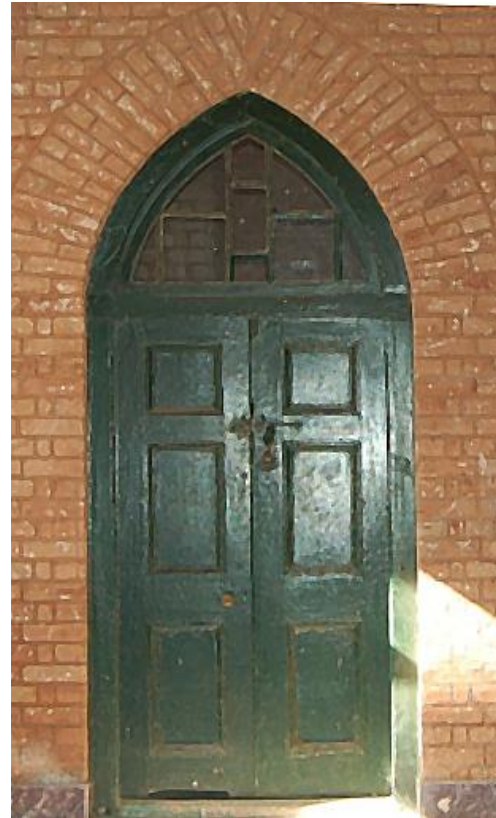
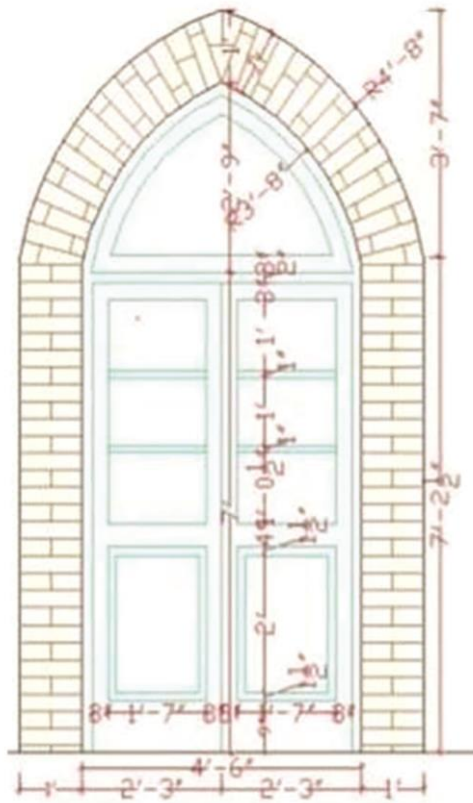


Plate 66: Islamia College Peshawar, door for stair case chamber for gallery.

- b) Wooden Panel Door with Glass Panes:** Doors with glass panes are the most frequently used type in the main Islamia College buildings. The doors used throughout the main building of Islamia College are in Gothic arched-shaped style. Sizes of doors for class rooms and offices are 7.6 ft x 4.6ft while only the main door of Roos Keppel Hall is 8.8 ft. x 6.9 ft (Plate 24). The main door of the hall facing south is placed in a huge double-arched bricked frame. All over the main building the upper arched portion of the doors are fixed and inserted with glass panes in wooden inserters of different sizes and shapes while the lower rectangular panes are also inserted with glass panes. This glass insertion in larger part of doors helps to admit day light.

In Islamia Colligate School, doors are rectangular with a fixed ventilator of ellipse shaped (Plate 67). In hostels and residence area same style is adopted but without ventilators. The rectangular doors are provided with glass panes at the top.



Plate 67: Islamia Collegiate School, a door.

The main entrance door of Islamia College mosque is in plain rectangular shape, placed in center of main gigantic arches (Plate 68) in the east, north and south sides. Inside the mosque five doors are provided for entrance of hall in arched shaped structure (Plate 42). The structure is divided into two parts: upper portion in arched shaped with fixed glass panels in beautiful geometric designs and lower rectangular part used for exit and entry has double panel. A three petal flower shaped glass section is added in the upper part of rectangular panel for light admission and decoration (Plate 42).

- c) **Wooden Panel Door with Wire Gauze:** In Islamia College some of the doors are added with supplementary wire gauze doors such as in hostels and kitchens of residences. The purpose of these doors is to protect the interior from insects and flies and at the same time admit light, ventilation and view to the room. The full panes are of wire gauze in a wooden frame (Plate 69).



Plate 68: Islamia College Peshawar, main entrance of Mosque.



Plate 69: Islamia College Peshawar, doors with wire gauze.

- d) **Main Gates:** In Islamia College no gates were added for exit and entry except for hostels. The hostel wooden gates are added to semi circled-shaped arches. Chelmsford hostel and Abdul Qayyum Manzil gates were provided in pointed arches. There is insignificant difference in the appearance of all the gates. The gates of Khyber hostel, Hardinge and Grant hostels are decorated with three petal flowers and scalloped shaped top edge (Plate 38). Osmania and Butler hostel gates are different in style. These gates do not cover the entire arch in which they are inserted. The upper part is separately covered with diamond shaped iron grill.

5.4 WINDOWS

Windows are actually the eyes of a building, often the most important element and one of the most significant components in shaping the character and façade of the building. They are an aperture in the wall or in the ceiling of a building. They are often arranged for the purposes of architectural embellishment and symmetry. Traditionally, windows serve two kinds of purpose: ventilation and illumination (Matus, 1988) but along with that they serve numerous other types of functions that add a lot to the atmosphere of a building and the comfort of its occupants. These functions include the view, outside sounds, communication and simply being aware of the outside surroundings.

Window openings have a long history of their development. Differences in climate, culture, materials and structural methods have always played a vital role in determining the size, style and treatment considered suitable at any one time as well as architectural movement, fashion and traditional skills.

In pre-historic times caves were selected which opened towards the direction of sun. It showed the importance of light and ventilation. Descriptions of windows are drawn in early wall paintings. Light was probably admitted through pipe holes in the walls and roof vaulting (Fletcher, 1975).

Architecture of ancient Egypt and Western Asia shows small openings or incisions because of the religious and ceremonial reasons and to keep the interior cool. As the sunlight is the vital requirement in any space so the day light was admitted through roof incisions or through pierced stones grills in clerestories found between the outer and

inner rows of columns (Beckett and Gorfrey, 1974). In ancient Greek the rooms were built around a courtyard which led to an almost total vanishing of windows in their architecture, since each room was lighted by a door to the central row of columns in the courtyard.

In Gothic era generally the windows remained comparatively small but development in this era was one of the elevated verticality by the emergence of new type of architectural system. In England and France the window size was large due to the adaptation of pointed arch and development of Gothic vaulting. In Europe the appearance of larger windows coincide with increasing facility in the art of colored glass making and decorating. In later Gothic architecture the use of uncolored thin glass made the interior space lighter.

The scale and arrangement were based on human reasoning due to the Birth of Renaissance in 15th century Italy. The walls were enlivened by ornamental elements including windows. The façades of later palaces were well articulated with rows of windows more severely classical in outline and decoration. Window opening still remained large like Gothic and a corner window was a distinctive novelty (Beckett and Gorfrey, 1974). In later Renaissance the French architects and designers produced and developed the type of large casement window known as the French window which gained much popularity. This type of window extends down to the floor level. Two narrow large wooden sashes swing inward or outward by hinges.

The main functions and performance of windows are: ventilation, view, daylight and Sunrays, heat insulation and condensation, sound insulation and decoration.

5.4.1 Types of Windows

Some of the major types of windows are given below which are used by architects according to design, style and their functioning.

- **Fixed Windows:** These types of windows cannot open and have very limited function of light admission and view. They are used in areas where ventilation or air circulation is not needed. They are also used

with the other type of windows such as casement windows and sliding windows. Clerestory windows are often fixed. They are difficult to clean on upper stories.

- **Casement Windows:** The term “casement” refers to any type of window opening on hinges. The hinges may be on side, top or bottom. It may swing inward or outward with the help of hinged sash. It may be single or double sash window. This is a very commonly used type since historical times. Casement windows opening outward were more commonly used in Britain (Beckett, 1974). These types of windows have many advantages such as:
 - most energy-efficient, after fixed-pane window,
 - easy to open and close,
 - very easy to clean as compared to the other types of windows. A pane of casement window opens fully either inward or outward which helps in providing 100% natural ventilation and light.
 - The air draft can be controlled with the direction of sash.

The major disadvantage of casement window is that they swing inward or outward which may cause hindrance in furniture arrangement or when moving outward on ground floor.

This casement type of window is sub-divided into:

- Awning windows
- Hopper windows

In awning windows hinges are attached to top while in hopper windows hinges are at the bottom. Usually used in bathrooms and stores, the cleaning of these windows is not very easy.

- **Sliding Windows:** Sliding windows are another very common type of windows. They fall into two groups:
 - Horizontal Sliding Windows
 - Vertical Sliding WindowsIn horizontal sliding windows the sash moves from side to side while in vertical sliding windows the sash moves in upward and downward position.

The history of both forms of windows goes back to sixteenth century (Beckett and Gosfrey, 1974). Due to the advantages of horizontal sliding windows it is much extensively used type by the architects from past till present. The major advantages of these are:

- They do not hinder the movement of furniture or in walk ways either inside or outside.
- They take lesser space as compared to casement windows as the sash moves on channels.
- The sliding parts of these windows are not exposed to wind buffeting.

The major disadvantages are:

- Only 50% of total window area can be opened for ventilation.
- Cleaning of these windows is difficult when on upper stories.

- **Jalousie Windows:** Jalousie windows are also known as louvered windows. Such windows consist of parallel slates of glass, plastic and sometimes metal. Normally this type of window is used where view is not required. Ventilation in such types of windows is also obstructed.

5.4.2 Windows in Islamia College Buildings

Windows play a very important role in the setting of Islamia College architecture. Three different styles of windows are built. As the colonial windows were placed near the exterior wall surface, resulting in a deep interior reveal the same style was adopted in this construction. The windows were symmetrical on the exterior and interior. The four types of windows are:

- Arched windows
- Screen or decorative windows
- Rectangular windows
- Ellipse shape windows

Table 2: Windows used in different Areas

Area	Width of windows	Height of windows	Type of windows
Mosque	4'.0"	6'.0"	arched
Ross Keppel Hall	4'.0"	8'.8"	arched
Class Rooms	4'.6"	7'.6"	arched
Class Rooms	9'.0"	8'.0"	rectangular
Offices	2'.6"	4'.6"	arched
Front Facade	2'.6"	4'.6"	arched (Decorative)
Hostel	3'.0"	4'.0"	ellipse
Collegiate School	4'.0"	5'.0"	ellipse
Residential Area	4'.0"	5'.0"	ellipse

- a) **Arched Windows:** In Islamia College buildings arched-shaped windows are used in Islamia College mosque, Roos Keppel Hall, offices and class rooms creating an exciting and spacious effect in the area. They are casement type of windows having hinges on sides. All the windows have double panes (Plate 70). They open in inward direction, inserted with small glass panes through which light and view can be obtained and when open provide full ventilation as well. The windows are divided into two parts: the lower part is rectangular in shape with the two sash panels which can be opened while the arched-shape upper parts of the windows have fixed glass panes. They are used in the lower portion of hall. The size of these windows is 4ft. 6 inches in width and 8ft and 7 inches in height as shown in (Table 2). Same type of windows is provided on the upper portion of the hall with an addition of a small rectangular ventilator portion in the lower half of the arched-shaped portion. The portion is supplemented with wire gauze (Plate 71).

In Islamia College mosque arched shape windows are added in prayer hall. They are with glass panes. Same types of arched windows are used in other places of the buildings but with the passage of time and due to the changing requirements and need of the institution the outer look has changed (Plate 72). In these windows additional wire gauze panels have also been added.



Plate 70: Islamia College Peshawar, arched windows in Roos Keppel Hall.



Plate 71: Islamia College Peshawar, two part arched window in Roos Keppel Hall.

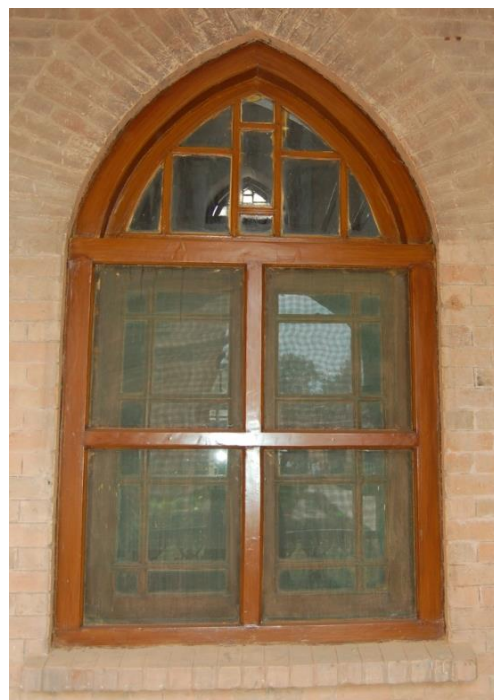


Plate 72: Islamia College Peshawar, arched windows in other places.

- b) **Screen or Decorative Arched Windows:** Windows with decorative edging at the top is another style used in the building to add beauty in the exterior. The cut work is made of bricks. The brick mullion and brick edging at the four sides of windows is used. This gives a frame and depth to the windows which also helps in protecting the interior spaces from direct sunrays and rain (Plate 73). They are created in the center of blind arches. The size of these windows is 2ft. 6 inches in width and this window style is used in library area. These windows are added at the front edges of the eastern and western block of the main building.

Towards the south of eastern and western block, windows are created for the ventilation of small rooms creating a symmetrical balance. On the pillar towards the west side another similar type of window is added. The space is filled with fret work of clay brick material and from the back the window is covered with bricks. The main purpose of this window is decoration.

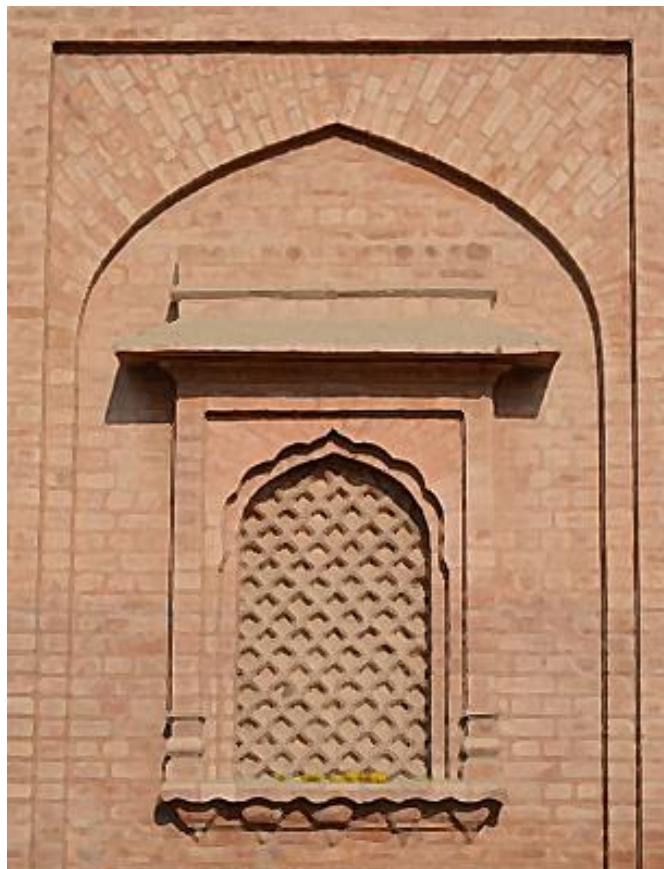


Plate 73: Islamia College Peshawar, decorative window with fret work.

- c) **Rectangular Windows:** This is the most general type of window. Such windows are larger than arched windows used in the building. These are wooden frame windows in rectangular shape. These windows have three parts: the upper part consists of three ventilators, the middle part has four panel sash casement style windows and lower part has fixed glass section giving the central part an elongated look (Plate 74).

These windows are used in recreation center and class rooms which keep them well ventilated. To create cross ventilation in the interior windows are placed opposite to each other. In educational buildings such kinds of window placement not only keep the interior well ventilated but also provide light and give the interior a spacious look. The windows are placed to create symmetrical balance in exterior facing. Grills are the later addition to the windows (Plate 75).

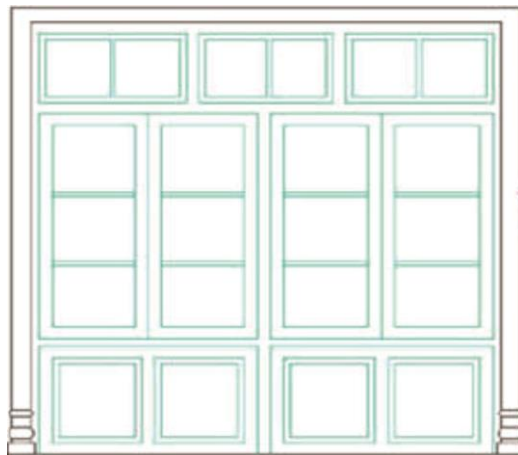


Plate 74: Islamia College Peshawar, rectangular window in class room.

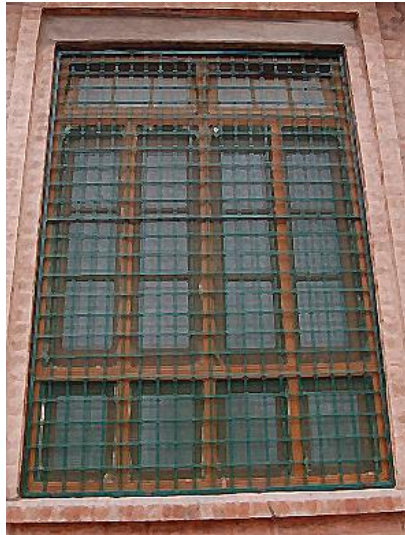


Plate 75: Islamia College Peshawar, window in class room with grill.

- d) **Ellipse Shaped Windows:** Ellipse shaped windows are frequently used in the rest of the Islamia College buildings such as hostels, residential areas, library and in academic blocks. In these windows the top edge is in ellipse shape provided in wall although the window frame is rectangular (Plate 76). The remaining area at the top is plastered. These are casement type of windows with two panes inserted with glass. In hostels these windows are grilled at the exterior wall for security and protection. These windows are also added with wire gauze.



Plate 76: Islamia College Peshawar, ellipse shaped windows.

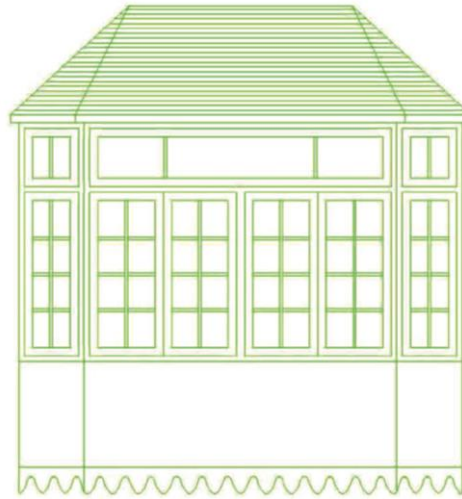
- e) **Supplementary Windows:** These are some of the windows created in the arch spaces to enclose the area for different purposes (Plate 77). These windows are supplemented with metal grills and wire gauze. Steps show that originally it was an open space and now one of the arches is used as a door way and the other has a window.



Plate 77: Islamia College Peshawar, later addition supplementary windows added to verandah.

Some of the hostel façade are enhanced by adding a “*Jhroka*” a type of bay window commonly used in the Mughal period and in the *Sethi Houses Peshawar*. They are provided in warden lodges right above the main hostel gates and on either side at equal distance. These wooden Jhrokas are extended outward and supported by iron brackets. The whole structure is divided into three parts: the center and two sides. Both the sides can open fully (40a and b).

The excellence of windows in a building is considered by the use and comfort they provide to inhabitants of the building and the resistance they have to deterioration. Comfort involves characteristics like operability, natural light allowed in the building which includes the number and size of windows, and the heat that is allowed to enter the building through the windows. Research has shown that at least 20% of the wall space should be occupied by windows for comfortable working space in a building (Fitch and Bobenhausen, 1999).



Fitch also states that insertion of glass in windows provide optical as well as psychological relief from "a highly structured and unnaturally monochromatic experience" (Fitch and Bobenhausen, 1999). Provision of these facilities helps in better feeling and producing better work. In buildings used for educational purpose natural light is far preferred over artificial light. In Islamia College windows in all areas are well provided in terms of light admission, air circulation, view and overall psychological effect.

5.5 VENTILATORS

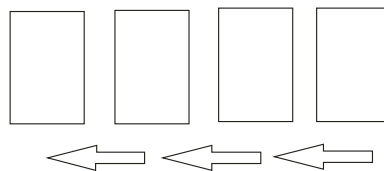
Throughout the history human beings have developed the capability to adjusting with different outer surroundings. Man lives with the daily and seasonal cycles of change and moves between different climatic zones. The building represents a man's protection against nature's varying climate. From the first pre-historic living spaces with the fireplace in the centre, the technique to control inside temperature naturally was introduced. This introduction of fire inside of houses led to the discovery of the need of having an opening in the roof to let out the smoke and bring in air to keep the fire burning and the atmosphere fresh. These openings are called ventilators. These are comparatively small spaces other than windows as the architecture design permits. In buildings with high ceilings they were placed near the ceiling as the hot stale air moves upward but with the changing architectural styles they were also designed as the upper part of windows.

Natural ventilation is a process to restore air in any space and endow indoor area with high quality of outside fresh air or can be explained as ventilation that takes place due to air moving through the edifice under the forces of resilience and wind. This also controls temperature and keeps interior space fresh with air circulation, refills oxygen, or eliminates excessive moisture, heat, smells, smoke, dust, bacteria, and carbon dioxide. When in a building stale air is exchanged with outside fresh air without any mechanical devices it is called natural ventilation. With the passage of time to the desire control and adjust our indoor climate has grown ever more sophisticated by means of mechanical devices like fans, dampers, ducts, and control systems to introduce and distribute cool outdoor air when appropriate.

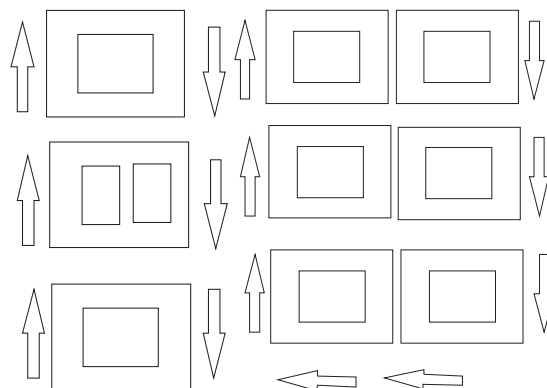
Ventilation is most generally comprehended as cross-ventilation, where air enters on one side of the building structure, and leaves on the opposite side, but can also drive single-sided ventilation, and vertical ventilation flows.

Ventilation is of two types:

- **Horizontal ventilation:** Horizontal ventilation means that openings are provided on the same storey of the building. It may also have windows, ventilators and doors. This diagram shows the air circulation in horizontal path in a building.



- **Vertical ventilation:** Vertical ventilation means provision of windows, ventilators and doors in two or more than two storeys. This diagram shows the air circulation in vertical direction as well as in horizontal direction in a building.



Important points which should be kept in mind are:

- Openings must be convenient to control the ample range of required ventilation according to the extensive and variable range of wind speeds.
- To control the air pressure the opening area should be distributed into more small openings as in the gothic time buildings as compared to one large opening.
- The internal ventilation flow path inside the building must be considered.
- In cross-ventilation leeward space will have air that has pulled out heat and fumes from the upper space of the room.
- Ventilators are used, for the controllability and design, which will help in gentle air flow without any hindrance in the interior or exterior layout.

5.5.1 Ventilators in Islamia College Buildings

In Islamia College building the natural means of ventilation was used to control and provide comfortable environment and cope with the extremes of climate. Ventilators are used for comfortable air draft. These ventilators can be classified as:

- arch Shaped Ventilators
- rectangular Ventilators
- fixed Jali Ventilators

a) Arch Shaped Ventilators: Ventilators used in main Islamia College building and Islamia College mosque are arch-shaped. They are part of the windows and doors as a fixed structure mainly used in Roos Keppel Hall, classrooms and offices. They are inserted with glass panes and give arch shape to the doors and windows. They help to add more light into the interior space and create balance in the exterior.

Same arch styles of ventilators which can be opened are used along with fixed type of arched ventilators in the main Islamia College building to provide ventilation and light. They are artistically placed in the gallery portion of Roos Keppel Hall giving a dramatic look to the interior. The morning sunrays from the west side through these ventilators give the hall a cheerful and pleasant atmosphere. They are placed symmetrically to create balance to the interior. These arch-shaped ventilators have two parts: upper and lower part. The upper pointed arched part is fixed and wire gauzed and the lower part could be

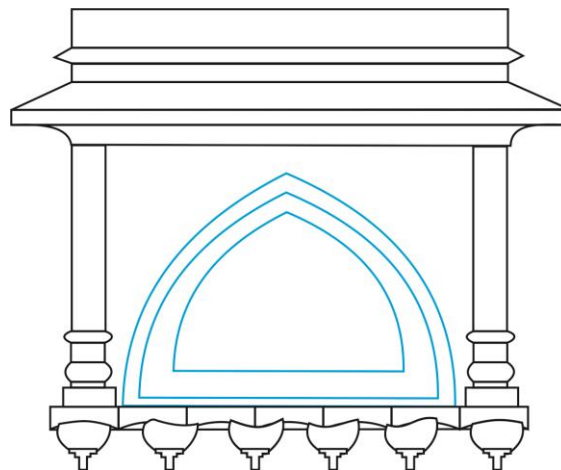
operated manually for opening (Plate 78a,b). The outer portion of the same ventilator is shown: the wooden ventilator is enclosed by a square block of brick mullion and frame work to enhance the exterior wall.



Plate 78a: Islamia College
Peshawar, ventilator in Roos Keppel
Hall. (Inner View)



Plate 78b: Islamia College
Peshawar, ventilator in Roos
Keppel Hall. (Outer View)



In (Plate 79) another arch-shaped ventilator is shown. This ventilator is different from others because it has no upper and lower portion. It is a “D” shaped arched ventilator. The arched structure pane can open. These types of ventilators are also enclosed by brick mullion and frame giving it a rectangular shape. Glass is inserted in the panes of the ventilators.

- b) **Rectangular Ventilators:** Rectangular ventilators are used in class rooms. They are used as upper part of the rectangular windows. They are simple and most common type of ventilators. Three equally divided ventilator panes are used on 9ft. wide windows. In each ventilator two glass pieces are fixed in the slot. (Plate 80).



Plate 79: Islamia College Peshawar, arch-shaped in D shaped ventilator.
(Outer View)



Plate 80: Islamia College Peshawar, rectangular shaped ventilator in class room.

In the rest of the Islamia College buildings such as: academic blocks, library, recreation center, residential area and hostels, the rectangular wooden structure ventilators are used in ellipse shaped brick structure. These ventilators are covered with wire gauze in different styles and provided with metal over hangings beautifully decorated with scalloped edging (Plate 81).

In Islamia Collegiate School two types of ventilators are provided, ellipse shaped ventilators added into window and semi circled ventilators with wire gauze and metal overhangs in semi- circle shaped with scalloped edging (Plate 82).



Plate 81: Islamia College Peshawar, rectangular shaped ventilator covered with wire gauze.



Plate 82: Islamia College Peshawar, ellipse shaped ventilator.

- c) **Fret work or Jali Ventilators:** These ventilators are used in places where there is no other source of ventilation. They are fixed ventilators made up of fret work or jali. They are placed in an oblong brick structure. The size of this opening is 2ft.x 1.5ft. a rectangular structure with ellipse shaped top (Plate 83). The purpose of such a structure is the provision of air circulation and light admission in an area. They are provided in small stair hall used for the gallery of Roos Keppel Hall and store rooms.



Plate 83: Islamia College Peshawar, fret work ventilator.

5.6 CEILINGS

The inside surface at the top of any building which rests on the side walls is called as ceiling. They are placed inside the room at the apex to complete any architectural structure. Most of the time doing our routine task i.e. while we sit, stand, or walk, ceilings are located above us. Usually they are out of sight but they are the periphery of our perception. The distance to the ceiling surface from floor level may differ depending on the architectural style and use of the area.

Ceilings can play a significant role in defining space and bringing exclusivity to any area. They provide a clear view e.g. floors and walls give space to furniture, wall hangings, curtains, doors, windows etc. which create interruption.

In most situations the visible element of the ceiling is plastered by a supplementary coating that conceals structural parts and presents an even surface that is visually pleasing and also permits the application of paint or other adornments. These additional coatings can also help to increase sound and thermal padding, balance auditory, and allow for spatial modification of interior space proportions. The noticeable part of ceilings can be either classified according to its visual look or through the treatment, i.e. the material and method used.

5.6.1 Types of Ceilings

There are different types of ceilings used to cover the interior space either with simplicity or design embellishment.

- **Flat or Conventional Ceiling:** It is the simple type of ceiling laid on the walls. It is usually 10 feet high to make a room feel larger but the height may vary depending on the requirement and need of space. These ceilings have the advantage of being easy and simple to build and very functional.
- **Suspended Ceiling:** A suspended ceiling is another version of a conventional ceiling. It is a flat ceiling built beneath an existing ceiling. It consists of a metal grid suspended from the existing ceiling with ceiling panels built of lightweight acoustic material laid into the grid. These ceilings hide old ceilings, wiring, plumbing or mechanical fixtures. They lower the original height of the ceiling by at least 6 inches.
- **Cathedral Ceiling:** This is a type that provides a high sloping line up to the pinnacle of the house which gives the area or the space a traditional look. In this ceiling the center point is higher than the walls. This is the most general type of raised ceiling construction and goes a long way to escalating the overall perception of room size. Detailed ornamentation is generally provided in this ceiling.
- **Vaulted Ceilings:** In vaulted type the ceiling tilts down to the lowest wall giving the feeling or illusion that the room is larger than it actually is due to the enlarged volume. A vaulted ceiling expands a room upward and gives a spacious feeling. Vaulted ceiling adds largeness to any area. It provides both functional and luxurious effect.
- **Cove Ceiling:** A cove ceiling has a **curved concave face**. Cove ceiling has a curved edge where the ceiling meets the walls. Usually this type of ceiling is incorporated into arched doorways or hallways. Symmetrical effect of the curved structure needs time, skill and creativity which gives fluid effect of transmission from one space to another.

- **Coffered Ceiling:** This type of ceiling is typically created by framing a **series of interrelated horizontal and vertical lines** across the ceiling. It comes in various techniques and finishes ranging from rich hard wood to simple painted plastered board surfaces. The cost of construction is based upon the type of finish selected.

5.6.2 Ceilings in Islamia College Buildings

The academic blocks, library, recreation center, residential area, offices, class rooms and Islamia Collegiate School are made up of simple bricks and steel beams. These beams give support to the ceiling and break the vertical lines of the ceilings in long verandahs (Plate 84). This arrangement also makes the ceiling the focus of attention by simply looking upwards. The height of these ceilings is almost the same all over the building except in some areas like verandahs in residential areas, library, recreation center and Islamia Collegiate School.

The ceiling of Islamia College mosque is plastered in white with decorated floral motives to add beauty and symmetry to balance the highly decorated walls and arches.

In Roos Keppel Hall the ceiling design is different. The surface is covered with white plaster and is designed with diagonal lines. By the combination of four diagonal panels a beautiful geometrical pattern is created (Plate 85). The total height of hall ceiling is 20 ft. but the area where gallery is added in the hall the ceiling height distance is 9.9 ft. This break up of ceiling doesn't make any difference in the huge and massive structure of the hall. Beam structure is invisible and the ceiling load is divided on structural columns in the walls.



Plate 84: Islamia College Peshawar, the ceilings.



Plate 85: Islamia College Peshawar, ceilings in Roos Keppel Hall.

5.7 COLUMNS/ PILLARS

Column or pillar or post is a constructional element in architecture and structural engineering that transmits the weight of the structure above to other structural elements below through compression. The word column applies particularly to a bulky round structure with a capital and base³³ made up of stone, or wood, plaster and other materials. A support with non-round or rectangular section is usually called piers or wharf while a small metal or wooden support is usually called a post.

Columns are commonly used to bear the load of beams and arches on which the upper parts of walls or ceilings rest. In architecture, "column" refers to the proportional and decorative features along with its structural importance. This architectural creation is strong enough to hold up ceilings without the use of solid walls thus increasing the open space which could be extended by a ceiling permitting the access of light and offering an alternative aesthetics to building. They may be built in walls or free-standing for decorative and ornamental purpose.

A column consists of three main parts: base (round or square), shaft (the main vertical part) and capital (the top of column attached to ceiling). Ancient builders developed several orders, or rules, for the design and proportion of columns. This development of columns has been classified within architectural orders.

The three major orders are Doric, Ionic, and Corinthian.

- **Doric:** Doric is one of the simplest column styles. It is thicker and heavier in diameter. For this reason, the Doric column is related with firmness and strength and because of this quality ancient builders often used them for the lowest level of multi-storey buildings so it could bear the most weight.
- **Ionic Columns:** Ionic is column style developed and first used in ancient Greece in the mid-6th century BC. It is slim in diameter and more ornate than

³³ Merriam- Webster Dictionary, Merriam- Webster

the earlier Doris column style. It has scroll-shaped ornaments on the capital, or top.

- **Corinthian Columns:** This column style was developed in ancient Greece. It is more complex and intricate than the earlier Ionic and Doris column styles. The capital, of a Corinthian column has lavish ornamentation carved in leaves and flower shapes. Tuscan, Composite Persian and Solomonic are other versions of columns used in different periods with variations.

5.7.1 Columns in Islamia College Buildings

In Islamia College the whole façade is enhanced by columns. In the building different types of columns, pillars and turrets are used not only to bear the load of the ceiling but also to embellish the building. Four major styles of supportive columns are used in the building.

- a) The square-shaped columns are the major supportive architectural structure throughout the buildings. They hold the ceiling of verandah as well as help in the formation of arches. The capital and base is square (Plate 86). They are used in the main building of Islamia College, library, academic blocks, Khyber House, residential area and Islamia Collegiate School.
- b) The second type of columns used outside the buildings are erected as corner buttresses/turrets. These turrets support and extend up to the upper portions of the building at the front and back façade. The four corners end up with a cupola (Plate 87). Octagonal shaped turrets are also used in the main building. As compared to the other building columns the base of the turrets is square while the shaft is in octagonal shape. They are used next to the main entrance arches. Half sides of these turrets are merged in the wall as shown in the (Plate 88). At the top these turrets are shaped into octagonal chatrus, and are projected outward on the verandah wall. Overall it presents a classical look as the entrance to the main building from different sides.



Plate 86: Islamia College Peshawar, square-shaped columns.



Plate 87: Islamia College Peshawar, columns/butresses in the building.



Plate 88: Islamia College Peshawar, octagonal columns in college building.

- c) The third type of columns is used for Roos Keppel Hall gallery. The entire gallery is sustained only by two pillars (Plate 26) and the rest of the gallery is supported by brackets. These pillars are bell-shaped capital which is common Corinthian order and simply decorated. As shown in (Plate 27) they have small octagonal base with a round rim. These pillars are added by nuts and bolts at the top and bottom. In the front verandah of recreation center simple brick columns are used in equal distance. The base and capital is in square shape.
- d) The forth type of columns can be seen in Roos Keppel Hall. They not only support the wall and hold the weight of the ceiling but also add beauty to the hall. The reason for building such columns is to provide unhindered interaction between the audience and stage and also to reduce the heaviness of the hall. These half-visible columns are octagonal in shape. They are Corinthian columns, slender and fluted (Plate 89a). Their capitals are bell-shaped and lavishly garlanded with acanthus leaves (Plate 89b). The bed is convex in shape usually semi-circular and angle nosing (Plate 89c). The whole structure is in white color. These columns are repeated with equal interval filled by a blind arch (Plate 90). These columns are

projected on wall plastered and painted in simple white colored. The elongated structure of these columns is intermittent with the gallery which creates a splendid effect.



Plate 89a: Islamia College Peshawar, columns in Roos Keppel Hall.



Plate 89b: Islamia College Peshawar, columns in Roos Keppel Hall.



Plate 89c: Islamia College Peshawar, columns in Roos Keppel Hall.



Plate 90: Islamia College Peshawar, columns repetition with blind arches in Roos Keppel Hall.

Plasters in Islamia College Buildings

The stylistic elements used in Islamia Collegiate School are accentuated featuring decoration crown (pediment) and plasters around windows. These plasters create a brick frame around windows. The base and top is decorated with dressed bricks (Plate 91).



Plate 91: Islamia Collegiate School Peshawar, plastered window frame.

Buttresses

A buttress was a common element of European architecture due to two reasons: it gave more height to the structure and secondly it controlled the weight of the walls and gave strength to the structure. In Islamia college building the buttresses were designed and added to every corner of the building.

5.8 DOMES

Dome is a classic form in architecture that graces the buildings throughout the architectural history all over the world. A dome is the exterior architectural element that bears resemblance to the hollow upper half of a sphere. It has a great deal of structural strength when accurately built and can extend large open spaces without interior supports. When the base of the dome does not complement the plan of the sustaining walls underneath it (for example, a spherical dome on a square cove), different techniques is used for alteration between the two. The simplest method is to use diagonal lintel across the corners of the walls to create a curve base. The innovation of pendentives superseded the squinch method to bridge the corners (Bradshaw et al., 2002).

There are two types of domes: simple and compound, depending on the use of pendentives. In simple dome, the pendentives are part of the same globe as the dome itself; however, in the case of common compound dome, the pendentives are division of the surface of a larger sphere below that of the dome itself and form a rounded base for either the dome or a drum segment. Drums, also named as tambours are walls in cylindrical or polygonal shape sustaining a dome which may enclose windows. A variety of materials have been used in the construction of these domes such as clay, stones, bricks, concrete, glass, plastic and fiber glass.

Domes have long architectural ancestry extending into prehistory. In the ancient Middle East Corbel domes and true domes have been found in the buildings and tombs. The frequent use of technically advance dome construction was started when the Romans used to shape large interior spaces of public buildings and temples. The technique of conversion of a square room into a circular shaped dome technique was most likely invented by the ancient Persians.

The Byzantine architectural manner became the major influence on Muslim societies with the Muslim invasion of Greek-Roman Syria. As a matter of fact the use of domes as an element of Islamic architecture has its roots in Roman Greater-Syria e.g. Dome of Rock. In Russia the tradition of using multiple domes was developed for the church architecture. They were often painted in bright colors or gilded, and characteristically have a body and an outer surface made of wood or metal. Another idiosyncratic feature in the Russian architecture is the use of onion dome (Grabar, 1990).

Domes in Europe became accepted again during the Renaissance period, reaching its peak and attractiveness during the early 18th century Baroque period. In the 19th century they became an important element of splendid civic architecture. During the 16th – 18th centuries, the construction of domes in the Muslim world reached its peak. It was the time when the Muslim Empire, was ruling an area comprising North Africa, the Middle East and South- and Central Asia. They applied lofty domes to their religious buildings to create a sense of heavenly transcendence (McVey 1983).

Many domes, predominantly those from the Baroque and Renaissance epoch of structural architecture, are crowned by a cupola or *lantern* a medieval novelty which not only serves to admit light and emit air, but provides an additional component to the decorated interior of the dome (Born, 1944).

The Mughal dome structures are a fusion of Persian and Indian architecture. The bulbous shape originated from Persian Timurid domes, and the lotus leaf base ending up with finial is derived from Hindu temples. The inner domes are highly decorated with flowering art, geometrical and triangulated pattern modeled in plaster mold work, or carved in marble with inlay technique (Peterson, 1996).

5.8.1 Types of Domes

In architecture, the dome is basically a hollow semi-spherical structural component, yet in practice, and has taken on a significant role in the organization of interior and exterior and developed a high level by variety and types.

- **Corbel Dome:** Corbel dome is one of the earliest dome forms created in numerous early constructions, it is not, truly speaking, a dome, because it is created by horizontal masonry constructions that progressively reduce in size to create a semi-spherical form. As the circumference of each layer lessens, the masonry circles gradually move in the direction of the center, maintained by the preceding level until the shape is completely closed at the apex.
- **Onion Dome:** It is another dome shape common in the eastern architecture. It is a bulbous type of dome which extends from smaller base and then tapers to the top. These types of domes are commonly used in Russian churches.
- **Drum Dome:** Drum dome is the most common shape used as structure. It is a simple semi-spherical shaped dome.
- **Chatrus:** Chatrus is a prominent, dome-shaped structural element used in Indian architecture to represent pride and honor. It is a Hindi term which means umbrella or canopy. It is a small turret with columns, mainly four, or six or eight sustaining a dome with Chajja (stone projection eaves) under the dome. In the beginning they were widely used, in palaces and forts, or to distinguish funerary sites of memorials for kings and royalties in Rajaistani architecture. Later on, they were adapted as the standard building feature.

Majority of Hindu and Mughal structures are finished with Chatrus for additional beauty e.g. in Fatahpur Sikri, Taj Mahal, Humayun's Tomb, etc.

- **Cupola:** The cupola is a dome-like construction at the upper part of a building. History takes it back to both Roman and Greek architecture and is also found in some styles of Indian architecture and other traditional buildings around the world. The word cupola, is derivative from the Latin cupola or "kypellon" in Greek. It takes its name from the initiative of a dome formed like an upside down cup.

5.8.2 Dome and Chatrus in Islamia College Buildings

Domes and Chatrus are the focal point in the Islamia College building. A number of domes and cupolas are built in varying sizes to complete symmetrically balanced roof structure (Plate 18). Sizes of the main domes are 6x7.6ft. while the Chatrus are 6x4.6ft. These Chatrus are built in square and octagonal shapes.

The central dome facing towards the south is emphasized by an octagonal arched pavilion based on square platform right above the clock structure (Plate 92a). On the either side of this main structure dome, chambers are erected with cupolas at four corners (Plate 92b). Parallel to this main dome three dome chambers are erected on each side i.e. three in the east side and three in the west. At the back of the building same style is copied except for the main dome (Plate 93).



Plate 92a: Islamia College Peshawar, domes with Clock Tower.



Plate 92b: Islamia College Peshawar, side view of main Clock Tower dome.



Plate 93: Islamia College Peshawar, aerial view of domes.

Each main dome is supported by four small chatrus of square shape to enhance the beauty. All around the domes and below the friezes brick cut work design adds to the beauty of the whole structure (Plate 94).

The corners made by two arched walls in front of verandah are supported by square columns and the top is extended by a square chatrus (Plate 95). Only the chatrus

extending from turrets (columns) are in octagonal shape (Plate 96). These turrets are provided only on both edges of the main entrance arches which are wider than the other arches. These chatrus are embellished with small arches. Inverted Lotus flower motif is designed at the top of all domes with chatrus ending up in a pinnacle. At the base and around all the domes and chatrus decorative motifs in cut bricks are added. These dome chambers are hollow in structure and are typically octagonal in plan and corner squinches are used to convert a square bay into a suitable octagonal base (Plate 97).



Plate 94: Islamia College Peshawar, chatrus embellished with arches and brick work.



Plate 95: Islamia College Peshawar, dome with cut brick work.



Plate 96: Islamia College Peshawar, octagonal shaped turrets.



Plate 97: Islamia College Peshawar, inner portion of dome.

Domes in the Islamia College mosque are its emphasizing elements. Externally three large size domes of the prayer hall, larger in the center with smaller on either ends harmonize the building structure. The surface is designed in shallow, concave ribbed grooves running vertically (Plate 42). The grand octagonal minarets on the corners of the prayer hall exalt the architecture splendor of the mosque. The vertical line of minarets executed with the chaste white prayer hall add to the aesthetic beauty of the monument.

5.9 ARCHES

The arch was an important component of the architecture of early civilizations. An arch is a construction that extends a space and bears load. It is an opening extended by group of wedge shaped sections which continue in place by pressing in on one another. The joints among the sections emerge to release from some middle point lying within the gap and sometimes from points which recline to exterior, so that each kind of arch has a quality curve. The simplest and visually most usual form for an arch is the half circle but many other designs have been used. The arch is considerable because, it gives a composition which reduces tensile stresses in spanning a great amount of gap.

The arch was first employed for structural and functional purposes but gradually it started being used for ornamental purposes. The various forms of arches, vaults and cupolas allow a great range of architectural models. Although arches and vaults are customarily used to cover larger spaces perfectly.

An arch helps to connect a gap in a wall by juxtaposing and replicating arch supporting on columns. It can be used to reduce the masonry construction or merely for ornamental purposes. One can obtain arcades which help to construct very open enclosed spaces. A divider arch serves as a load bearing component in a large room by supporting roofing elements.

5.9.1 Types of Arches

- **Elliptical Arch:** This arch has ellipse like counter shape determined by three arches that are interrelated; with each radius being pinched from a different center. This arch is also known as a basket arch. Due to its simple design this type of arch is mainly used in contemporary buildings.
- **Corbel Arch:** It is one of the oldest types of arch. It is a construction that spans an opening; this is done by having a succeeding way of masonry project farther innermost as they rise on each side of the gap.
- **Flat Arch:** It is a horizontally straight arch consisting of jointly supportive wedge shaped blocks. These arches are also called Jack arches and they are very similar to French arches. A French arch is also a flat arch constructed of wedge shaped materials but also has a center keystone.
- **Gothic Arch:** Gothic arch is also known as pointed arch. It has a keystone at the top. This style originated from the Romanesque technique of Norman architecture.
- **Horseshoe Arch:** The Horseshoe arch is also known as the Moorish arch or the keyhole arch and is the traditional arch of the Islamic architecture. It can be rounded, pointed or lobe-shaped. Horseshoe arches have an intrados that expand above the springing before decreasing to a curved or pointed top.
- **Ogee Arch:** A pointed arch having S-shaped curve on both sides is known as Ogee arch. The style is related with the Venetian Gothic manner and the arch is also similar to the Gothic arch.
- **Roman Arch:** It is a very common arch style and the first arch design from Roman architecture. This is a semi-circular arch. It can be used in large structural buildings to carry heavy load; this is where the arch comes into the design to allow for opening while scattering the weight evenly.

- **Tudor Arch:** Tudor arch is also known as four-centered or depressed arch. It is an arch with oblique or pointed apex; generally drawn from four centers. It creates a visual effect in width than in height.

5.9.2 Arches in Islamia College Buildings

The building of Islamia College is well decorated with arches as the main architectural feature. In the Islamia College buildings five styles are created. (Table 3) represents that the main Islamia College building has three types of arches: plain-pointed Gothic arches, pointed scalloped arches and blind arches. Ogee arches are also added to the east and west verandah at the end of pointed arch rows (Plate 98).

Table 3: Arch Style Used in Different Areas of Islamia College Buildings.

Area	Style
Porch	Pointed
Main Front Verandah	Pointed Cusped/Scalloped
Side Verandahs	Pointed
Back verandah	Pointed
Dome chamber Arches	Pointed Cusped/Scalloped
Blind Arch	Pointed
Hostels (Gates)	Pointed and Semi-Circled
Hostel (Interior)	Semi-Circled
Collegiate School	Semi Circled
Library	Pointed
Mosque	Pointed
Residential Area	Elliptical
Roos Keppel Hall	Blind Arches
Front verandah	Ogee Arches

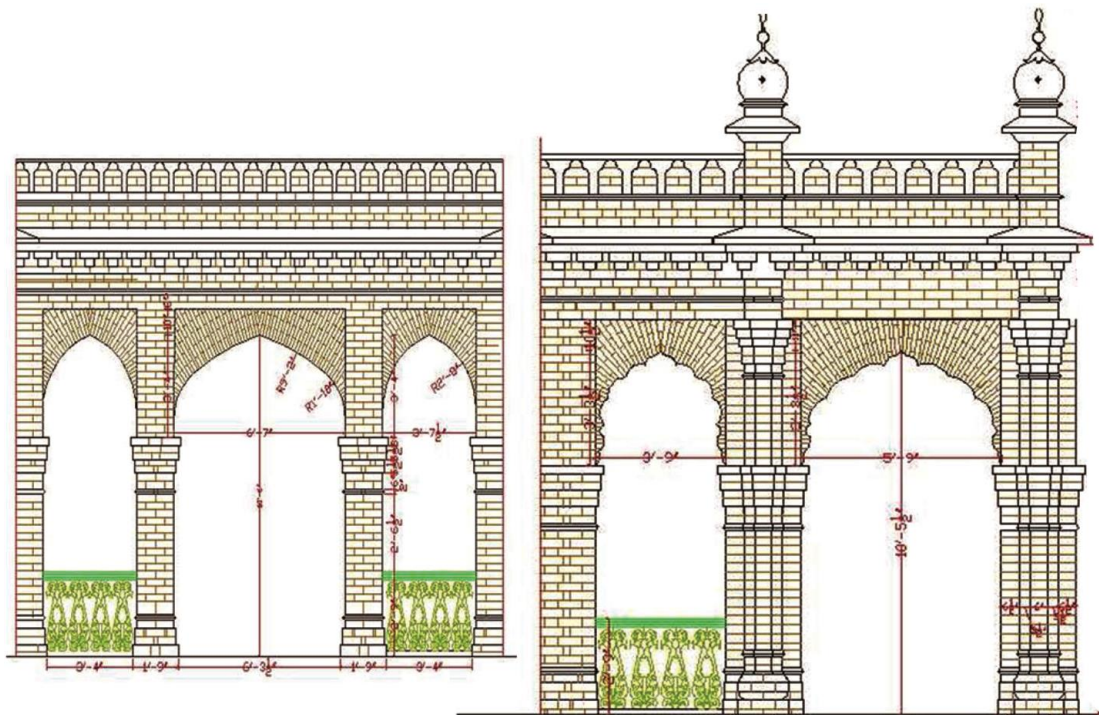


Plate 98: Islamia College Peshawar, ogee arch in college.

In Islamia college the cusped/scalloped design is used in front verandah and in dome chambers in the upper portion to embellish the building (Plate 99).



Plate 99: Islamia College Peshawar, cusped/scalloped arches in upper and lower storey of college building.



The main porch is enclosed by arches. The pointed arches 14.8ft. x 21.9ft. compose the huge entrance (Plate 100) in the eastern and western side. Towards the northern side another main arch of the same height and width leads to the verandah in front of Roos Keppel Hall (Plate 24). On the southern side towards the road three arches are built with cusped /scalloped design as discussed in (Table 3). The width of these arches is 2.6ft

on both sides and middle one is 3ft. wide while the height is 16.9ft. The portion above these arches is blocked by bricks and fret work (Plate 101).



Plate 100: Islamia College Peshawar, arched porch.



Plate 101: Islamia College Peshawar, arches facing south in main porch.

The main purpose of these arches is to bear the load, reduce the massiveness of the structure and to enhance the beauty. Large span arches are used as entrances at different ends to make

the movement easy. All these arches are simple-pointed arches. While decorative scalloped arches are used at front as they are more expensive than the pointed ones.

The verandah in front of the whole building is ornamented with arches and presents harmony and rhythmic flow. Mainly these arches are used in symmetry having the same height except where they are used as entrance to verandahs. Arches differ in width to break the monotony of design. In front verandah scalloped design arch is used.

In the side and back verandah pointed arches are used. Sizes of these arches are the same in the front. Arches provided as main entrances are gigantic and are three-layered. The first layer is a rectangular frame, second a pointed arch style and the third one provides entrance to the verandah (Plate 96). The main architectural benefit of these arches is decorative representing power. They provide opportunity for greater visual pattern and rhythm.

Blind arches are also part of Islamia college architecture. It is the arch type created for the beautification in a building wall and has been used in different spaces. In outer wall these blind arches are further embellished with decorative windows that are filled with fret work (Plate 73). In College Library blind arch is used on the west side (Plate 48). In Roos Keppel Hall the blind arches are added to create symmetry and balance in the hall and to bear the load of structure (Plate 57).

In hostels (Plate 39, 41) and Islamia Collegiate School semi circled arches are used in front verandahs (Plate 47). The college library (Plate 48), Khyber house (Plate 54), the main gates (Plate 68) of the mosque and in prayer hall pointed arches are constructed (Plate 42). The residential area is fronted with elliptical arches (Plate 35).

Arches are considered important; because of their symbolic significance they reflect the importance of principles such as light, unity and beauty in the Muslim faith. In Islamic architecture, these rows of arches symbolize the division between sacred and secular space.

The pointed arches have a major architectural advantage as they center the load-bearing force of the building on a vertical point, so that more of the building's weight could be supported on the exterior, usually used with buttresses. They not only hold higher ceilings and support larger domes but also give the building a lighter, more open feel.

5.10 STAIR CASES

A stair is an arrangement of steps by which people and stuff move from one level of a building to another. A flight of stairs is a structure designed to connect a large [vertical](#) distance by separating it into smaller vertical units, called steps (Chudley and Greeno, 2008). These numbers of steps with landings at suitable intervals provide comfort and safety. Stairs may be straight, round, or L-shaped.

Components of Stairs: The definitions of some technical terms, which are used in connection with the design of stairs, are given below:

Flight: A sequence of steps flanked by different levels or storeys of a construction.

Landing: A floor area between flights of stairs as rest place between long flights of stairs and also for changing direction in the stairs.

Tread: The part of the step in flat shape that is stridden on.

Riser: The vertical part between steps at back. In case of open stairs it may be missing.

Nosing: An edge component of the tread that broaden from the riser below (Ching 2014).

5.10.1 Types of Staircase

- **Straight Flight Staircases:** The straight flight of stairs rising from one floor to another floor in one track with or without any transitional landing. **It is one of the most common and simple type.** This type of staircase is limited in height (Barry 1999).
- **Quarter Turned Stairs/L-shaped:** Another most common type is quarter turned or L- shaped stairs. They are also known as Single Winder Stairs. It rises to a landing between two floors, turns through 90°, then rises to the upper floor. It's a compact type of planning (Merritt et. al, 2001).
- **Half Turn Stairs/U-Shaped Stairs:** This stair type is also known as Dog Leg stairs. It rise to a landing between floors, turns through 180°, then rises parallel to the lower flight to the floor above. It is the most common arrangement of stairs (Merritt et. al, 2001).

- **Spiral & Elliptical Stairs:** They are the most cost-effective way and help to save space, but not easy to use due to the sharp turns. This type is very unsafe for small kids and the elderly. It is usually used where the space is very limited for access to a transitional floor.

5.10.2 Stair Cases in Islamia College Buildings

The main Islamia College building is basically a single-storey. Stairs are needed only for the approach to the clock tower and gallery in the Roos Keppel Hall. These stairs are straight flight stairs without any landing. They are constructed in a small room and the width of these stairs is 2 ft. The tread is 15 inches while the riser is 8 inches (Plate 102). The material used for these stairs is brick. No change has been brought to these stairs regarding the material and its appearance the reason may be that they are out of sight. To approach the clock tower a metal stair case is provided at the back in open terrace.



Plate 102: Islamia College Peshawar, stair case for gallery in Roos Keppel Hall.

In Ross Keeple hall wooden stairs are provided for stage. They are constructed all around on three sides of the stage (Plate 103a). Height of the riser is 4.6ft while tread is 12 inches with the wooden nosing (Plate 103b). These wooden stairs give an effect of continuity as the floor and stage of this hall is also made up of wood.



Plate 103a: Islamia College Peshawar, wooden stage and steps inside Roos Keppel Hall.



Plate 103b: Islamia College Peshawar, stairs on three sides of stage in Roos Keppel Hall.

Other stairs used throughout the building are raised from plinth level to the verandah (Plate 104). They are provided at the front of main entrance arches. The riser of these stairs is 4.6ft. and tread, 15 inches with nosing. A small flight of stairs are provided from back courtyard for the pathway leading to hostels and other academic blocks. Marble is the material which has replaced bricks in all the stairs except in a few areas where they are out of sight. All steps provided for approach to verandahs or pathways are decorated with curvy edge which is flowing to the bottom (Plate 21).



Plate 104: Islamia College Peshawar, stairs leading to verandah.

Narrow winding stair cases in hostels are provided for approach to the upper floor and warden lodges. These stairs are erected in curve but without landing. Bricks are still retained as their construction material. A wooden railing is provided near the wall on the right hand (Plate 105).

In Islamia College mosque stair case in minaret is erected to lead a “moazeen” to eastern edge. A wooden stair case is provided in the residential area (Plate 37).



Plate 105: Islamia College Peshawar, stair case in hostels.

Chapter 6

DECORATIVE ELEMENTS OF THE COLLEGE BUILDINGS

6.1 EAVES AND BRACKETS

Eave is derivative of old English “*efes*” meaning edge. The eaves are the fringe of the roof which extends beyond the face of wall locally called as ‘chajja’. The eaves form a projection to protect the structure from rain, and snow and throw water away from the wall. They may be highly decorated to add visual interest to buildings as part of an architectural style. Eaves have been used throughout history and cultures. Soffit Eaves is an architectural term running horizontally under the roof edge, it highlights the outer surface and enhances the beauty of any building.

An architectural element bracket is a structural as well as decorative component in any building.³⁴ They project from wall to carry weight or strengthen an angle. These brackets can hold many architectural objects such as walls, balconies, parapets, eaves, galleries and shelves.³⁵ Sometimes they are totally decorative, made up of wood, stone, or metal.

6.1.1 Eaves and Brackets in Islamia College

In Islamia College building eaves are the elaborating part of construction. The horizontal bricked eaves are further added with cut and dressed brick soffits. The main building of Islamia College is heavily decorated with different styles of brackets. The

³⁴ Oxford English Dictionary (2009) Second Edition Oxford University Press.

³⁵ <http://www.britannica.com/EBchecked/topic/76704/bracket>

designs of these brackets vary in different areas. In the main Islamia College building T-style, two layered rectangular and smaller square bricks are used (Plate 106). In the second style shown in (Plate 107) cut bricks in spiky leaf style are added while in third type (Plate 108) pot or pitcher style structure with spiky leaf design are added to enhance the beauty of the eaves.



Plate 107: Islamia College Peshawar, spiky leaf style.



Plate 108: Islamia College Peshawar, leaf with pitcher style.

The elaborate architecture of the brackets seems to be an imitation of wood work. In Islamia College metal brackets are provided in the Roos Keppel Hall to support the gallery. (Plate 109) These brackets in floral design painted in white add embellishment to the structure.



Plate 109: Islamia College Peshawar, bracket in Roos Keppel Hall.

6.2 PARAPETS

A parapet is a fence, low wall or railing extended above the wall at the edge of a roof, balcony, walkway, terrace or bridge. Extending over roof it may be a portion of exterior wall that continues above the line of roof surface (Ching, 2014).

6.2.1 Parapets in Islamia College Buildings

The Islamia College building is beautifully decorated with parapet walls and cupolas which add to the dignity of the building. In Islamia College the parapet walls are decorated in five different patterns: paneled, perforated, vase style bars, quatrefoil and curvilinear triangles.

The parapet walls in the main building of Islamia College is finished with running curvilinear triangles (Plate 110) and quatrefoil parapet further decorated with round crenel or embrasure (Plate 111). The parapet wall also decorated with small cupolas at the front, rear and on each side. The cupolas towards front are square having openings on each side formed by fluted tapering cupolas with cusped arches. These cupolas are

topped by a dome. The terrace of the porch in front of the main Islamia College building is decorated with perforated style screens (Plate 112).



Plate 110: Islamia College Peshawar, curvilinear triangle mirlons.



Plate 111: Islamia College Peshawar, quatrefoil parapet decorated with round crenel or embrasure.



Plate 112: Islamia College Peshawar, vase style parapet.

In Islamia Collegiate School parapet with intervals and terracotta railings at the top and base are used to enhance the terrace of the central part of the school building (Plate 113). Parapet wall in rectangular panels with crenels or indentations at regular intervals is used in the residential area of Islamia College building (Plate 114).



Plate 113: Islamia College Peshawar, perforated style parapets.



Plate 114: Islamia College Peshawar, panel style parapet wall in residential area.

The parapet in the Islamia College mosque is build in the form of three steps, heigher in the middle and decending on either side. The central step is decorated with a row of ribbed semi-dome (Plate 115a) and the second step on either side, is embellished with boldly projected accunthus leaf in lime mortar (Plate 115b). The third step is decorated with ribbed miniature domes. They are placed in a group of three with the central one larger than the other on either side. They are finished with finials, inverted lotus flowers and finials (Plate 115c). These ornamental parapets provide symmetry and rhythm to the façade.



Plate 115a: Islamia College Peshawar, parapet in Mosque (First Step).



Plate 115b: Islamia College Peshawar, parapet in Mosque (Second Step).



Plate 115c: Islamia College Peshawar, parapet in Mosque (Third Step).

6.3 WATER SHOOTS

Waterspouts are usually vertical in shape and extend from roof to ground level. The water runs out through these pipes and is directed away from the building to protect the foundation. There are different shapes of these pipes. Some are simple while others are added with decorated heads called gargoyles. The term derived from the French “gargouille”, originally "throat" or "gullet". Different animal shapes were used at different periods with different concepts. Lion heads were the most common non-native animal crafted as a gargoyle in the medieval period.

6.3.1 Water shoots in Islamia College Buildings

The Islamia College buildings have well-planned water shoot system. In the main building they run close to the columns and in the corners of the building. These water pipes start from the lower part of the eaves and end with a curve near the floor (Plate 116). The metal water shoots are painted in green color. They are placed symmetrically the both ends of the arches as shown in (Plate 117).



Plate 116: Islamia College Peshawar, water shoots.



Plate 117: Islamia College Peshawar, water shoots.

Later additions in the buildings of Islamia College show different types of water shoots e.g. in the library, gargoyle shape is used. The library building has its ceiling in two levels. The lower level ceiling is for verandah and the high level ceiling is for halls and rooms. The rain water needs to be drained from both levels. For upper level water shoots are placed at the lower edge of the eaves to drain out rain water through metal pipes (Plate 118) while simple terracotta figure gargoyles drain out water without any pipes, from the roof of the verandahs (Plate 119). These gargoyles are placed on tapering brick panel.



Plate 118: Islamia College Peshawar, water shoot in upper terrace of College Library.



Plate 119: Islamia College Peshawar, gargoyles on tapering brick panel.

These gargoyles are designed to pass on water from roof and away from the side of a building. Preventing rainwater from running down masonry walls is important because running water. Multiple gargoyles on buildings are used to divide the flow of rainwater off the roof. The length of the gargoyle determines how far water is thrown from the wall. These gargoyles are placed in a rectangular conical brick structure below the eave. Same type of gargoyles are provided in Khyber house and other academic buildings.

In Islamia College hostels, residential areas, Islamia Collegiate School and mosque metal water shoots are provided (Plate 120). In the mosque and recreation center, built in wall water drainers are provided. These drainers are open in structure and without any pipe.



Plate 120: Islamia College Peshawar, water shoot in Collegiate School.

6.4 GRILLS/ JALI/ RAILINGS

Architectural elements have always contributed in enhancing the beauty and comfort with optimization of material resources and energy consumption. Grill, *Jali* or Pierced Screen or Fret work is such an architectural element that has been a useful tool in adding to environmental comfort. They serve the function of windows, room separator and also as a decorative feature. In the warm climates of South Asia they were an ideal aperture in outer walls of buildings because they screened the sunshine but allowed air to flow in and out freely. The continuous movement of sun from early morning to sunset creates shadow patterns adding richness to the interior.

Jali as architectural decoration was used by the [Indians](#). It is a term for a latticed screen or pierce stone used in Islamic architecture as well as in Indian architecture, usually with an decorative design built through the use of calligraphy and geometric patterns. Early work was performed by carving into stone, while the Mughals employed the technique of inlay, using marble and semi-precious stones. The initial existing jalis, are dated back from early sixteenth century found in a mosque in India (Nath, 1997). In the late sixteenth century they became a common feature in the Mughal buildings and were later adopted in Rajput architecture.

Jali works as a small nick or voids in walls or windows which helps to split down total consolidated opening area making it versatile enough for effective ventilation purposes in hot dry and clammy climate zones. It has been used for centuries for air ventilation and, like fence work, to design semi-private dividers between rooms or to provide partition for larger spaces. *It* controls and helps to dwindle direct sunrays and in consequence the heat access and hence the rooms are ventilated for the entire time. This tremendous air flow helps for cross gentle wind draft and ventilation.

These *jali* screens form an ideal way both for transparency and veiling with regards to the vestibule. From outside light could still be perceived and received but the view is obstructed by the screen. These jalis were mostly used for queens and court ladies to attend the daily court meetings or to attend darbars but because of being Muslim women they couldn't go in public and therefore used to view through screens. Traditionally they were made in clay, but today, they are made in various

materials: cement, marble, limestone, wood etc., and each material has its own beauty.

6.4.1 Grills/Jali/Railing Work in Islamia College

This Mughal art is used in different areas of Islamia College with varying purposes and materials. In the main Islamia College building the upper terrace has domed chambers based on pillars. These pillars are connected by a 3ft high railing. The zigzag pattern is used with top railing in terracotta (Plate 121).



Plate 121: Islamia College Peshawar, railing in upper terrace of college building.

Decorative windows in verandahs which are used as decorative purpose are filled up with the same zigzag designed screens. This pattern is visible from outside and covered with bricks as inner layer. This creates an embossed type of pattern (Plate 122). Another space where the same pattern is used are the ventilators, staircases and stores. These ventilators are horizontal in shape and placed in sunken panel. These ventilators open from the back for ventilation (Plate 123). The material used for the assemblage is terracotta.

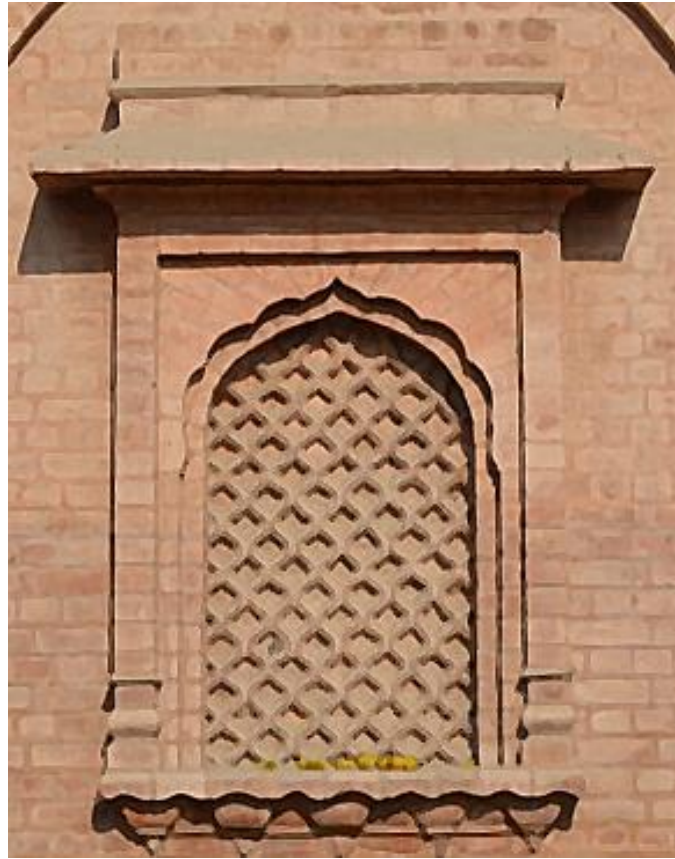


Plate 122: Islamia College Peshawar, window with fret work.



Plate 123: Islamia College Peshawar, fret work ventilator in sunk panel.

Another style of terracotta railing could be seen in the front porch terrace (Plate 124). They are designed in vertical bands with top and bottom railings of the same material. The upper portion of the arches in porch facing the south is also filled with fret work screen (Plate 125).



Plate 124: Islamia College Peshawar, railing on front porch.



Plate 125: Islamia College Peshawar, fret work in front porch.

The other type of jali/grill/railing used throughout the building is metal grill with floral pattern (Plate 126a). This grill is used in front verandah with a height of 3ft (Plate 126b). This grill is colored in white with horizontal railing in green at the top and bottom.



Plate 126a: Islamia College Peshawar, floral grill in front verandah.



Plate 126b: Islamia College Peshawar, floral grill in front verandah.

In Roos Keppel Hall the gallery is provided with white wooden grill in geometrical pattern. The design is enclosed in a 3ft. rectangular panel. A fringe or scalloped design is added at the base (Plate 127).



Plate 127: Islamia College Peshawar, geometrical designed grill in gallery of Roos Keppel Hall.

Simple metal window grills are also added to some of the class rooms and offices. The design, style and color of these grills vary in different areas (Plate 128). Some of the arched windows are covered with additional frame in arched shape with diamond shaped grill and an small opening for official work as shown in Plate 129. In the main Islamia College building, library, hostels and other academic blocks windows are added with grills. The rest of the widows and ventilators are covered with wire gauze.

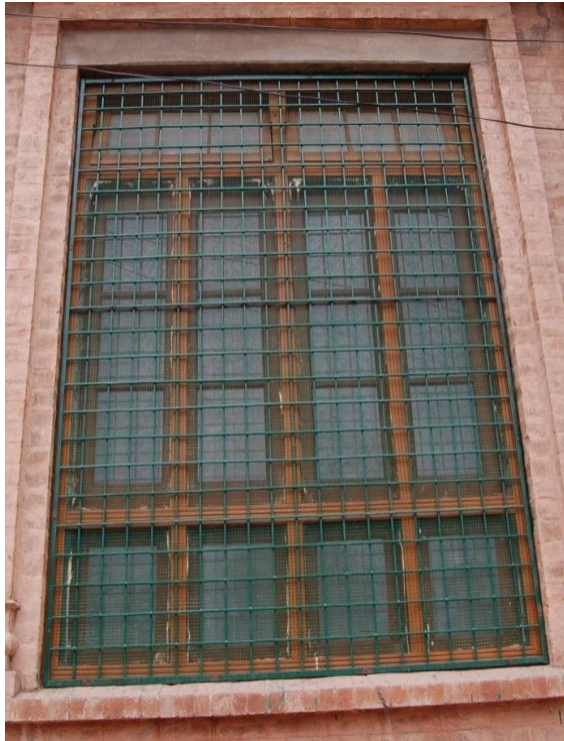


Plate 128: Islamia College Peshawar, metal grill in class rooms.



Plate 129: Islamia College Peshawar, metal grill in offices.

6.5 DADO LEVEL

In architectural phrasing, the dado is the lower part of an interior wall which is specially decorated differently from upper portion. The word is borrowed from Italian meaning ‘die’.³⁶

In the main Islamia College building dado levels are added in the classrooms. This dado level is 3.6ft in height and now it is marbled in gray color. The pillars in the mosque area, too are constructed with bricked dados of 3.6ft height.

³⁶ Merriam Webster Retrieved march 10, 2013.

6.6 BRICK WORK

Brick is a wedged or molded rectangular slab of clay baked by the sun or in a kiln until firm and used as a building material in [masonry](#) construction. The brick might be made from [clay](#), lime-and-sand, concrete, or stone. In some cases bricks are made from dried earth, usually from clay-bearing subsoil. Commonly it is fired in a kiln of some sort to form a true ceramic. They are typically produced in standard sizes and weight. Usually they are piled together or assembled as [brickwork](#) with different kinds of [mortar](#) to hold them together and make an enduring structure. They are laid in horizontal courses. Bricks have been observed as one of the longest lasting and strongest [building materials](#) used throughout the architectural history.

The sun-dried bricks were first produced at least 6,000 years ago and the predecessor of a wide range of structural clay products used today as a small building unit in the form of a rectangular block, formed from clay or shale or mixtures and fired in a kiln, to produce strength, hardness, and heat resistance. The original concept of ancient brick makers was that the unit should not be larger than what one man could easily handle; today, brick size differs from country to country, and brick industries manufactures a variety of sizes.

A variety of brick compositions based upon pure geometry create splendid, aesthetically praiseworthy and pleasing result. Aesthetics is not just a visual criteria, but touch and feeling, are all important in the creation of charismatic architecture. It is significantly observed that this vocabulary of aesthetics was extremely developed in the Mughal architecture and applied not only to the building façade, but also to interiors.

Islamia College buildings are composed of bricks and present the best example of variety of designs. Faced bricks with their intense color are used for different parts of the building to form unique patterns. Specially shaped bricks are used to create silhouettes and counters of columns, friezes, eaves, brackets and plinth, shaped into convex, concave or cut and dressed bricks. Their overall use gives character to a visual

continuity to the architecture. Bricks are used for the construction of walls, columns, roofs, floors and pavements in and outside the building.

6.6.1 Brick designs of Islamia College Buildings

Walls in Islamia College buildings are erected with faced bricks. A all over the buildings header and stretcher style is used in bricklaying. It comprises alternative courses of stretchers and headers. It gives a strong and preferred bonding pattern in architecture. The eaves and soffits are decorated with a variety of patterns such as T-style brick pattern (Plate 106), spiky or embossed leaf pattern (Plate 107) and pitcher style (Plate 108). They are used in eaves and brackets of main Islamia College building. Rest of parapet area is designed with bricks in curvilinear Triangle style (Plate110). Parapet wall is decorated with quatrefoil crenels merlons in the front and back side of the main Islamia College building (Plate 111). Dental saw tooth pattern is added in Islamia Collegiate and hostel buildings (Plate 130).



Plate 130: Islamia College Peshawar, saw tooth brick pattern.

In walls and columns header and stretcher style is adopted (Plate 131). Furthermore the columns are added with bricks cut in triangular shapes added with projected brick layer at top and bottom (Plate 132). Columns provided in Islamia college library are embellished with diamond cut shape (Plate 133) instead of triangles.



Plate 131: Islamia College Peshawar, header and stretcher brick laying.



Plate 132: Islamia College Peshawar, triangle shaped brick cut.



Plate 133: Islamia College Peshawar, diamond shape brick cut.

Table 4: Brick Designs Used in Building Elements of Islamia College.

Brick Designs	Building Elements	Areas
Header & Stretcher Style	Wall, Columns	All Buildings
Diamond Shape	Column's Shaft	Main Islamia College Building, Library
Triangle Shape	Column's Shaft	Main Islamia College Building
Spiky Leaf Shape	Brackets	Main Islamia College Building
Pitcher shape	Brackets	Main Islamia College Building
T – Shape	Eaves	Main Islamia College Building, Library
Dental Saw tooth Pattern	Soffits	Islamia Collegiate building, Hostels
Conical Shapes	Decorative Window Base	Main Islamia College Building, Library
Scalloped Shape	Decorative Window Base	Main Islamia College Building, Library
Convex Shape	Decorative Window Base, Columns	Main Islamia College Building, Library
Herringbone Pattern	Floors	Islamia Collegiate School, Hostels
Basket Weave Pattern	Floors	Pathways, Residential Area, Recreation Center, Library
Hexagon Shape	Floors	Path between verandah and Road of Main Islamia College Building

Decorative windows in Islamia College are embellished with different shapes of bricks. Convex shaped bricks with a conical end are for used adding support to the base. The base is scalloped creating a fringe to the window (Plate 134). Floors are paved with bricks laid in different styles like basket weave (Plate 135a) and herringbone (Plate 135b). Bricks in hexagon style are also used in pathways (Plate 136).



Plate 134: Islamia College Peshawar, cut and dressed brick shapes used in decorative windows.



Plate 135a: Islamia College Peshawar, basket weave brick laying on floor.



Plate 135b: Islamia College Peshawar, herringbone brick laying pattern on floor.



Plate 136: Islamia College Peshawar, hexagon style brick for floors.

The plain brick can also protrude to provide more emphasis to any building and the best example is Islamia College building. High quality effect is quite simply achieved by using plain and cut and dressed bricks to complement the multi brick used in the building. The main reason was adding decorative features to a brickwork structure and to enhance the appearance and aesthetic value of a long, flat length of walling. For this a number of patterns was created. Most of the decorative features incorporated to the construction also play part in providing support to a structure. Shape reconstruction from silhouettes occluding are beautifully controlled in brick sizing and shapes.

Chapter 7

DECORATIVE DESIGNS

Design is the drawing creation or construction of any object. It has different implications in different fields such as a piece of pottery, embroidery or any building. There are two types of designs: Structural and Decorative.

Structural Design is the arrangement of line, shape, form, color and texture through which a structural design is created.

Decorative design is a mode to enhance, beautify or to add an attractive work of art to the structural design or it is a decoration added to the structure to create beauty.

In architecture decorative ornamentation is used to elaborate the structural parts of the building. This decorative enhancement can be added to the columns, friezes, doors, windows, fireplaces, parapets, eaves etc. A wide variety of decorative styles and motifs have been developed. These styles and motive changed with the passage of time, culture and environment. These decorative designs are added in a variety of ways like painting, calligraphy, molding, carving etc.

7.1 TYPES OF DESIGN MOTIFS

A vast variety of motifs used in decoration are drawn from geometrical shapes, flora and fauna, human and animal figures.

In Islamia College three major elements of decorative art: calligraphy, geometrical shapes and a variety of floral motifs are often repeated on borders, friezes, ceilings, columns, parapets, eaves and brackets.

7.1.1 Geometric Designs

Geometric patterns adorn a wide variety of architectural and decorative surfaces. The basic components of these geometric patterns are a variation of lines like vertical, horizontal and diagonal. At times these lines were used separately or in combination in different angles to create shapes like square, triangles, and circle. Marvelous patterns are formed by uniting these shapes. The sources of these basic shapes and patterns used in geometric ornamentation are rooted back in pre-history. There is little historical proof that tells how craftsman worked, to create beautiful geometric designs on mathematical basis. Later on the craftsmen continued to elaborate upon these designs through the centuries, ultimately creating new abstract geometric designs that were symmetrical, balanced, and proportional. These patterns were often based on the repetition of a single unit in a series of steps to extend the overall pattern.

In Islamia College numerous forms of decorative styles in different materials can be seen.

- a) **Geometrical Designs in Moldings in Islamia College Building:** Moldings can be created as an element in architecture inside and outside of buildings. Exterior moldings are used to boost the facade of buildings. Stucco became a popular material in creating enhancements to the architecture. Interior moldings, like plaster cornicing, coving and ceiling roses not only enhance a room's proportions but the intensity of embellishment within the moldings can highlight a room's importance.

In Islamia College molding is used in the columns of Roos Keppel Hall. The shaft is enhanced with fluted stripes in vertical lines and the base of these columns are enhanced with horizontal lines as shown in (Plate 137) breaking the solid structure of these columns. These vertical lines are strong, rigid and suggest stability with a reflection of potential energy. The friezes in geometric

pattern like horizontal bands are running throughout with the ceiling line (Plate 138). Ceiling itself is molded in transverse bands as shown in (Plate 139). These transverse bands convey action, motion and excitement. These diagonal lines create more drama than either horizontal or vertical lines.

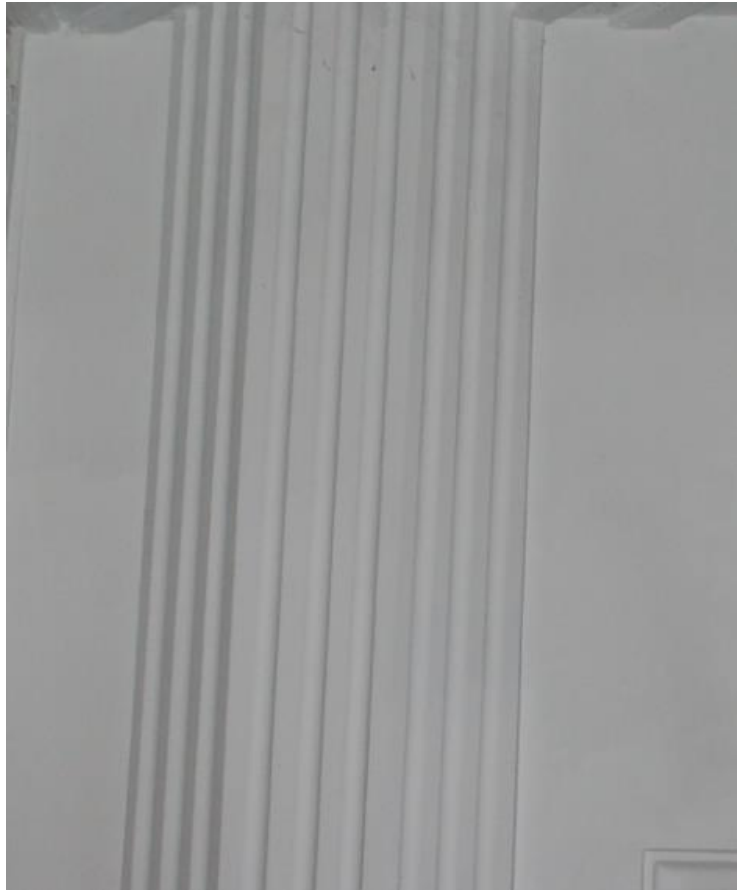


Plate 137: Islamia College Peshawar, vertical lines in the columns of Roos Keppel Hall.

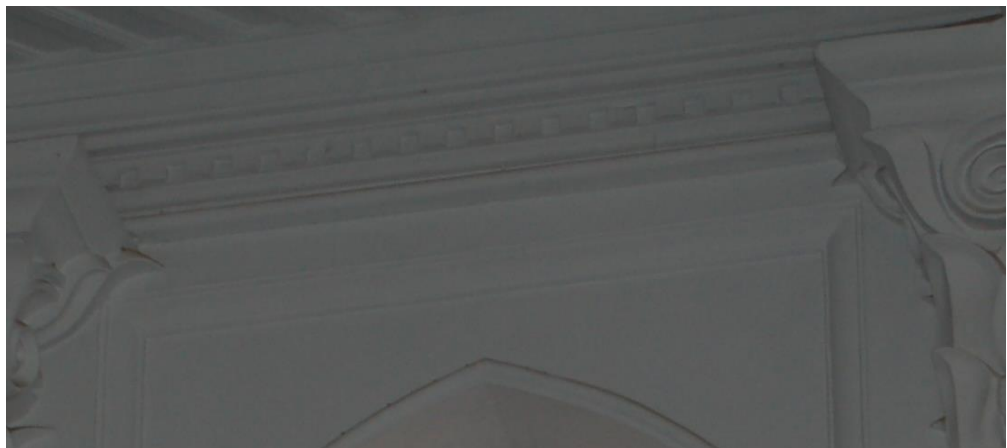


Plate 138: Islamia College Peshawar, horizontal bands running along with the ceiling in Roos Keppel Hall.



Plate 139: Islamia College Peshawar, transverse lines in the ceiling of Roos Keppel Hall.

- b) **Geometric Designs in Wood and Metal:** The grill in repetition of geometric motifs is beautifully placed in the gallery of Roos Keppel Hall. The grill pattern is an arrangement of diagonal and horizontal lines as shown in (Plate 140) these lines create fascinating geometric pattern. At the top and bottom horizontal bands are added and a fringe is designed in leaf style.

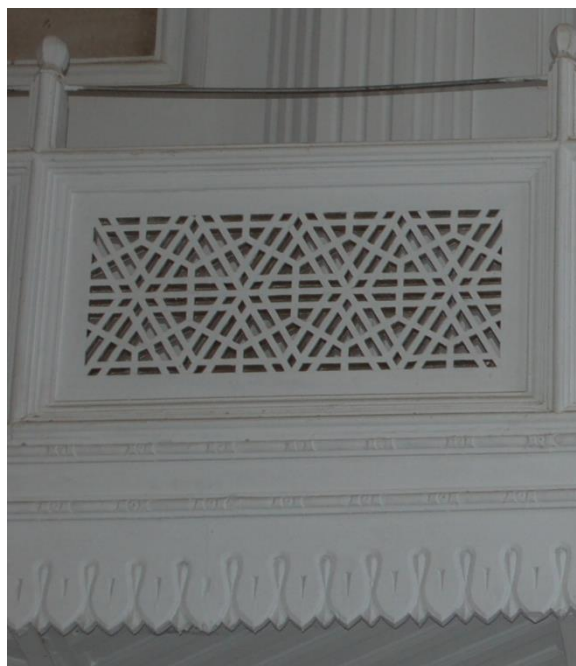


Plate 140: Islamia College Peshawar, geometric pattern of grill in Roos Keppel Hall.

Metal grills are added on windows for protection. Designs of these grills are composed of simple geometric pattern of vertical and horizontal lines. These grills are colored in green exactly like that of window color.

- c) **Geometric Designs in Painting:** Painting as a medium of expression was most commonly used in religious and ceremonial buildings throughout history in all parts of the world. Paintings on walls and ceiling are considered as the salient features of the Mughals and they are best shown in the Islamia College mosque.

In Islamia College mosque the painting technique is used in the combination of geometric and floral design making it a vibrant piece of decorative art. Geometric designs are used in different portions of mosque. Mostly straight lines and diagonal strips are painted in blue, brown and green colors as shown in (Plate 141). These lines provide boarder edging to all the door openings and arches.



Plate 141: Islamia College Peshawar, geometric design in painting Mosque.

- d) **Geometric Designs in Brickwork:** In Islamia College numerous styles of cut and dress bricks are used to enhance the façade of the building. These geometric designs are used in eaves, parapets, brackets, columns and window borders and

fret work. The geometric designs are created in different striking patterns marked feeling for scale and a perspective use of simple and massive forms.

7.1.2 Floral Designs in Islamia College

Floral design is the art of exercising flowers, leaves and trees to generate a pleasing composition. The evidence of gracious floristry designs date far back to the Ancient Egypt. Floral motifs are arrangements or artwork inclusive of floral components like leaves, flowers stems, plants and trees along with the principles of design: balance, proportion, rhythm, contrast, harmony and unity to create a pleasing composition. Examples of such designs can be seen in paintings, carvings, moldings on walls, columns, brackets etc.

- a) **Floral Design in Molding:** In Islamia College floral designs adorn the column capital of Roos Keppel Hall. At the top most edge of capital dentil, boss, volute, rosette and acanthus leaves make up the decorative parts (Plate 142). Other floral molding patterns are also used in Islamia College mosque (Plate 143). They are used in the corners of the entrance gates. To highlight the edge of leafs and petals they are further embellished with maroon-brown color. Furthermore the flowing lines of calligraphy and flower petals in the mosque hall make it a dazzling art piece.

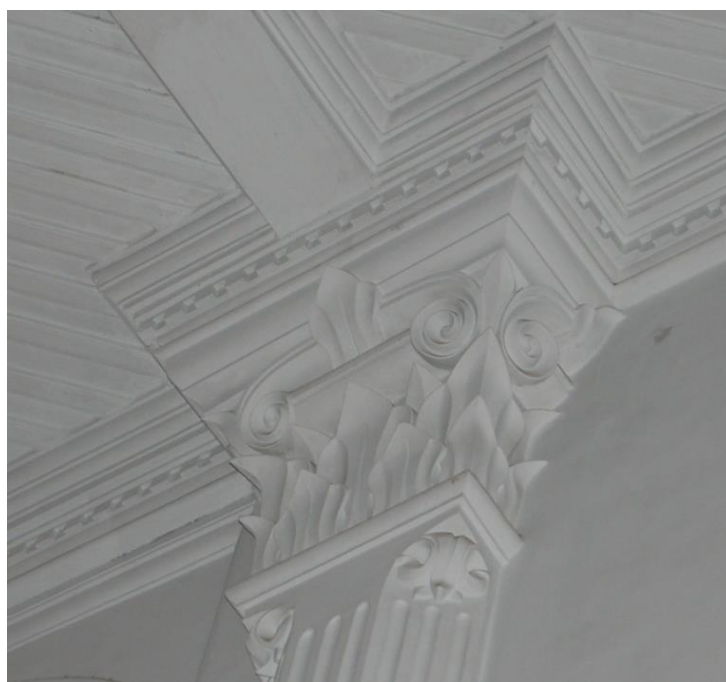


Plate 142: Islamia College Peshawar, floral motif in column of Roos Keppel Hall.



Plate 143: Islamia College Peshawar, floral design in Mosque.

- b) **Floral Designs Used in Painting:** Floral designs in paintings can only be observed in Islamia College mosque. The entire walls, arches, columns and ceilings are beautifully painted. These paintings embellish both the exterior and interior of the main hall. These designs are added as a single motif with a flowing pattern. The use of calligraphy is also a part of the painting as shown in Blue, maroon-brown, mustard and green on white background are the colors used in the entire mosque (Plate 144a and b).

- c) **Floral Designs Used in Metal and Wood:** Metal brackets are used in Roos Keppel Hall of Islamia College to support the gallery. They are beautifully designed in floral motifs. Grills placed in between the arches of front verandah are adorned with floral metal design and painted in white. The curvilinear lines compose a unit consisting of three parts: base, bottom and top. All the three parts are adorned with leaf motifs as a separate unit. The whole unit is enclosed at the top and bottom rail as shown in (Plate 109 and 126).

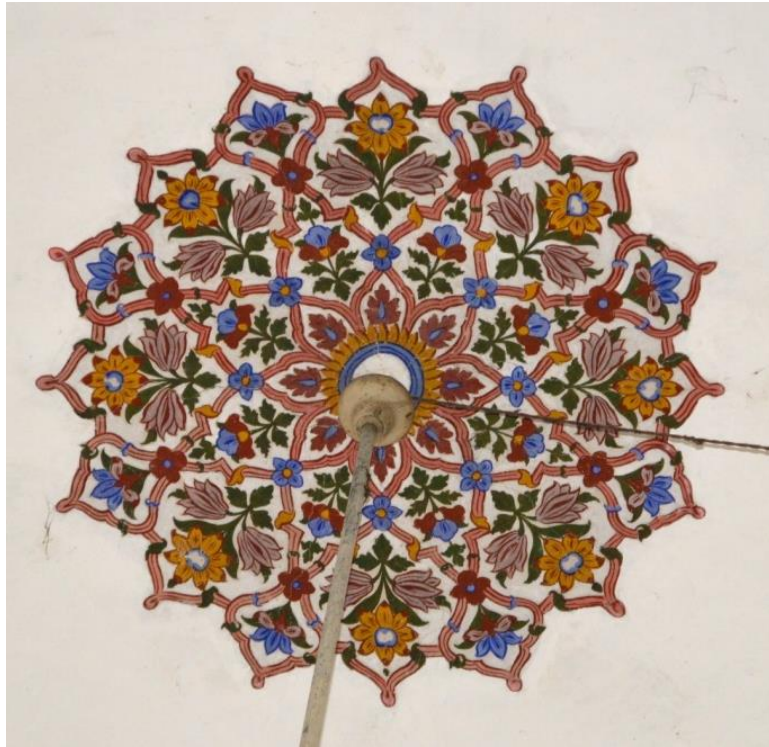


Plate 144a: Islamia College Peshawar, floral motif in Mosque.

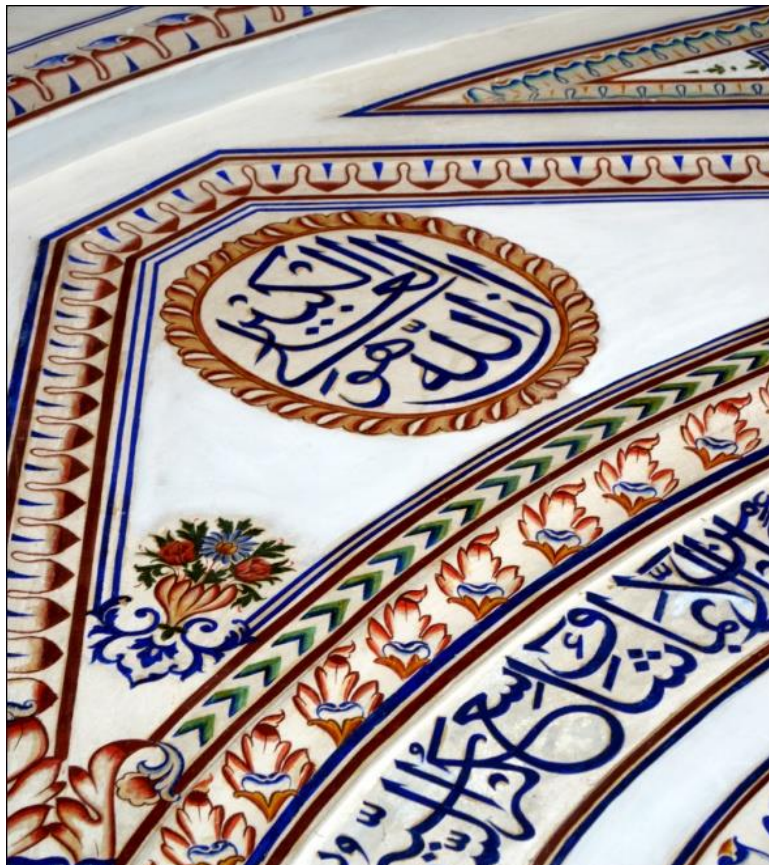


Plate 144 b: Islamia College Peshawar, calligraphy and floral motif in Mosque.

Chapter 8

ANALYSIS AND CONCLUSION

8.1 ANALYSIS

Peshawar, the capital of Khyber Pakhtunkhwa is a city of undoubted antiquity and one of the oldest living cities of South Asia with archeological remains (Jaffer, 2008). Its location has given it a turbulent history full of sporadic invasions and a way for trade route and interaction between Pakistan, Afghanistan and Central Asia. The city has changed many faces with the passage of time and invasions of various groups in ancient times (Dani, 1995). The region of Peshawar has seen, for centuries, many ups and downs, and has embraced different civilizations. The impact of these civilizations can be seen in the art, architecture, traditions and culture of the region in the archaeological vestiges hidden in inaccessible mounds under the city and even in the architecture and ways of living of the people of Peshawar and the adjoining areas since several centuries. As a result the ancient city became a junction and asylum of cultures and civilizations (Dani, 1995). The architecture here is one of the high points of rich blend of different civilizations that includes accumulation of expression best achieved in Peshawar. Numerous buildings based on incredible designs came into existence from the Buddhist to British era and then to the post independence period. During the Mughal period the architectural excellence was raised to the height of opulence. They built beautiful edifices and gardens that have no parallel in symmetrical design and elegance of geometric decoration. Later on the British rulers in addition to this erected magnificent buildings using the advance technology and architectural elements of the west with the blend of eastern components.

Most of the historic buildings of this region are now in ghastly state and either partly or fully demolished but others still standing as a glory of their period. There is a strong

influence of the Islamic Mughal and British periods in the architectural manner of buildings representing the splendor of the city erected during 1900. In these buildings the eastern and western elements are visible representing their rulers and period of construction. Among these historic building stands a glorious buildings of Islamia College representing the fine architecture of its time.

The great institution of Islamia College was established with the consecrated reason to nourish the educational expansion and reveal modern education to the Muslim Youth of this part of the Sub-Continent in order to enable them to shoulder their future responsibilities. It indicated the dawn of a new epoch, of enlightenment and development among the Muslims of this province.

This institute of learning provided a sigh of relief for the inhabitants of the province, as the founders of this sole institution were incomparable and honest with the people of this land. The name “Darul-Ulum-e-Islamia” was chosen to represent the Muslims. The Islamia College was founded in 1913 on the proposed land only six miles away from the historic Khyber Pass at the western periphery of the Peshawar valley. The foundation stone of the college was laid by Maulana Fazal-e-Wahid, known as Haji Sahib of Turangzai in a simple but impressive way (Qadir, 2006). Sir Sahibzada Abdul Qayyum and Chief Commissioner George Sir Roos Keppel founders of Islamia College had a view that the most trusted person in the eyes of the people of this region was Haji Sahib Turangzai and with his endorsement, no one would show any resistance to establish the institute.

Islamia College is a prestigious and sacred institution standing like a sign of unending knowledge and wisdom for more than a century. It has been the educational yardstick not only for the Pakhtun region but for Pakistan and South Asia. It appeared as a beacon of scientific knowledge and a torchbearer of fundamental ethical and religious significance and has become a symbol of academic par excellence. Its motto is “Rab-I-Zidni Ilma” (O Lord, enhance me in knowledge). Like its exclusive architecture, its educational curriculum was also unique. It was designed to hand down the benefits of western arts and sciences under the umbrella of Islamic beliefs to the people of Khyber Paktnkhwa and its tribal areas.

Islamia College Peshawar is a real seat of learning that generates knowledge, fulfills academic pursuits and successfully meets high quality standards laid down for entry into it. Islamia College is acknowledged for its extraordinary quest, motivation and commitment in developing indigenous human resources in a diversity of disciplines. It has a large number of graduates of professionals and humanitarian workers not only valued across the nation but renowned across the boundaries of Pakistan. It is endeavoring to provide outstanding facilities, including: access to high qualified and trained faculty; well equipped labs; hostels and well stocked library; peaceful, clean and learning friendly environment.

At the time of its creation, no one could envision that during the course of its existence it would bloom into a University and give birth to other Universities like University of Peshawar, University of Engineering and Technology, Agricultural University, Khyber Medical University and a nursery for other educational institutions - a dream envisioned by its founder.

From this analysis, it can be concluded without doubt that the Islamia College was constructed with a mission which was to be reflected in its architecture, too. The impact of this monument on the psyche of the native viewer was also important. With the arrival of the British in India the merger of local and immigrated Western architectural techniques resulted into a new style. Architectural elements used in Islamia College building are an amalgamation of eastern and western sources. They are used in terms of symbolism and style as the rationale of attraction and utility. Indigenous eastern elements are significantly used such as dome, arches, niches etc. to enhance the structure and beauty of the building. These eastern elements are the synthesis of Central Asian, Persian and Indian influence in Islamic and Colonial architecture. The universal language of geometrical form and symmetrical pattern, with red brick color in rough texture adds harmony of vision to architecture that is a splendid eastern style. The British conceptualized and designed the architecture to represent noticeably the new ideas of western progress and modernity keeping in mind the eastern religious views of local inhabitants. The Gothic revival architecture, of consequent progress of construction, technology and materials (i.e. use of concrete and steel structure) of the late 19th century with native features and ornamentation of the Mughals was adapted in the construction of the Islamia College.

The analysis of architectural style of Islamia College buildings can be seen as an authentic synthesis between the British thought and Mughal aesthetics. It is this unity of architectural elements that could be called as Indo-Sarcenic style. Its location, ornamentation, structure, the floor plan, the construction material and the ideology behind its construction makes it the most valuable possession – the jewel in the crown – of Khyber Pakhtunkwa.

The architectural analysis of Islamia College buildings represents that the design and construction is a combination of the visual landscape with the concept of grandiose structure deliberately planned to stamp the domination of the British ruler, in the North West Frontier Region of the Sub-continent. Being a repetition of elements and details, the overall or edifice of Islamia College was linked with other colonial period buildings in the Sub-Continent which defined their owners. The major symbolic clock tower of Islamia College was also constructed in different areas like Karachi, Faisalabad, Multan and Cunningham clock tower in Peshawar.

Among all the Islamia College buildings, two buildings stand out as symbol of master building structure: the Islamia College mosque and the main Islamia College building. The designs of both buildings are enhanced to project an image of grandeur. The white-colored mosque building structure domed with minarets at four corners represents the symbol of purity. In the main Islamia College building the chief characteristic of the style is pointed arched openings for doors and windows, asymmetrical massing, straight roofs decorated with domes and chattris, stylized brackets and drip moldings at the eaves. The arches are pointed and cusped with high square columns supporting the ceiling whereas other buildings like Islamia Collegiate School, hostels, residential area, Khyber house, recreation center have round arches with low ceiling heights of verandah and columns. The doors and windows are ellipse-shaped instead of Gothic arched style. The eaves are simply decorated with saw-tooth pattern whereas the main Islamia College building is lavishly embellished with different patterns for brackets like embossed leaf, pitcher style and drip molding style.

The architecture of Islamia College building was planned consciously because of climate of Peshawar and every possible effort was made in planning of the buildings

where indoor thermal conditions were optimized. The better orientation of buildings was one of the techniques to minimize the problems that in all buildings the rectangular plan was observed which was useful to place the longer sides of the buildings in the south and north as it was feasible with the climate of Peshawar. Similarly, the provision of verandah in front of the building was another way to save the building from direct solar radiation. The addition of verandahs also signifies its role to strengthen the overall appearance and aesthetics of the buildings. Such kind of arched verandahs were used in the Mughal buildings. During the study it was analyzed that uncovered area was left for the circulation of air in the buildings in the form of verandahs, courtyards and ground. This proves that more preference was given to natural means for achieving light, ventilation and indoor thermal conditions in the buildings. The verandahs are enhanced with columns and arches. The relationship of verandahs with buildings on the basis of aesthetics was so significant that their elimination from the buildings would mean the collapse of whole composition making the buildings not more than a box.

The longer axes of the buildings of Islamia College are placed towards the south and north directions. Walls were built with brick masonry laid in lime mortar and mud. The bricks were left exposed from external side whereas plaster layer was made on internal side. The ceiling height remained the same except for verandahs. The verandah was constructed with arches. Casement type of doors, windows and ventilators were constructed. High ceilings and massive walls were also concerned with climatic aspect. The car porch was meant for dual purposes such as arrival and departure point and also to act as central axis of the building to break the monotony of long facades. The style of construction was previously adopted for the buildings like Peshawar Museum and Edwardes College Peshawar.

The walls in Islamia College buildings have been constructed with bricks of 9x4.5x3 inches with relationship between length, width and breadth of brick is fully utilized creating a pleasing exterior. The overall statement of the buildings is dominated by the arches, columns, exposed brick work, and massive walls, they all place the building in architecture. The roofs in Islamia College buildings are characterized by straight rooflines, bracketed cornices and picturesque asymmetry.

8.2 CONCLUSION

The Islamia College buildings show that the fundamental principles of art are properly applied to their architecture and they are truly associated with beauty, proportion, symmetry and geometry. The buildings are made on the most important rule of architectural symmetry in an efficient manner, catching the attention of the viewers at all levels from closer as well as longer spaces, through large and small scale opulence which yet holds meadows all around the building. It is further concluded that the plan of buildings is horizontal which is mostly seen in the Mughal buildings like Shalamar garden, Badshahi mosque etc. (Nath, 1976) describes Mughal buildings as an incomparable art which can be seen in the spacious lofty construction and which evokes a sense of marvel and a source of aesthetic experience with symmetry and balance in structure. The plan of the Islamia College buildings is based on the same features with large play grounds around the main building. The flowing water from the fountains arches and profusion of arches and domes give it an extension of eastern period.

The architectural analysis represents that in spite of dimensions however, the whole building also divulges a significant architectural proportion and unity of its components. Much of the dignity and effect of the Islamia College building lies in the extremely imaginative quality of the decoration with which the walls of rectangular foundation are richly embellished and the splendid emphasizing clock tower with a dome representing its powerfully adjusted volume. There is at the same time a sense of elegant balance so that when seen from close quarters or from afar its upward sweep is such that it emerges to hang in the air. The structure becomes the most interesting example of building art. All the building components are well balanced representing remarkable unity of conception.

Significant features recorded from the composition of Islamia College buildings include massive walls, **Corinthian** columns, octagonal turrets employed as piers, and multi-cusped arches, in varying sizes organized and interwoven with asymmetrical progression of niches and colonnades as eastern elements to create visual interest. The role of domes with inverted lotus flower, chattris, cupolas and finial creating a highly articulated skyline in eastern architecture has been considerable and the same is adopted

in Islamia College building. The horizontal distinctive eastern architectural motifs used in Islamia College building are radiating structures, repetition, and rhythmic geometrical patterns are the key utility. Western practice of modeling and creating the illusion of light and shade in the building created a new interest in texture and surface effect. This western art was adopted by the Mughal as creative reinvention (Rehman and Akhter, 2012). These art forms were adapted to recommend allegorical meaning to the narrative structures in the Islamia College building in geometric pattern.

The study signifies that the clock tower is the emphasizing component of central composition stemming from the mid of the building. The tower is at a prominent position due to the central location and the extension towards both ends is enough to sustain the verticality of the edifice from competitively low height buildings at both ends. The central clock tower purely a western (Khan et al., 2013) approach is the emblematic architectural component of any prestigious building of colonial period in the Sub-Continent. The tower is added with eastern style domes above and around to control the proportion and visual effect of the composition. The domes and chattris and total façade also delineated in decorative brickwork, reflective of the finesse of material used in Islamia College buildings. Eave brackets in red bricks throughout the building, for the columns and the arches, with the occasional use of elaborate *jhorakas* or decorative windows finished with terracotta in beautiful cut shape and used in screens in geometric patterns bespeak of the mastery of the craft men. The verandahs are screened with inter-lacing arches of red brick adopted from the Mughals architectural style.

According to the findings Islamia College buildings are made climatically sustainable for critical weather conditions. Varying planning approaches and cooling methods in buildings are fused together to provide new ways to tackle with the extremes of the climate of the Peshawar region. The best orientation towards south and north was selected. Other most common features adapted are thick walls, high straight roof lines, eaves, verandahs and placement of doors, windows and ventilators. The climatic role of these architectural features makes them important and foremost characteristics of colonial buildings. The thickness of building wall serving as exterior wall is made 18 inches to curtail the heat penetration indoor due to time lag. A verandah of 10 ft. wide serves as buffer space in front of whole building to protect the interior spaces against direct solar radiations and rain (Khan et al., 2013). The walls are made of bricks laid in

lime mortar. The major ingredients of lime mortar reported during different studies of colonial building are Kankar, sand, soorkhee (pounded bricks). Same ingredient mortar was used in earlier British Colonial buildings e.g. Mayo College of Arts, and Atchison College Lahore (Khan et al., 2013). The vertical and horizontal structural components such as floors, walls, arches, columns, parapets, eaves and even railings at certain places are made of burnt bricks and lime mortar.

The brick walls embraced with geometrical ornamentation in stylized brick cutting in eaves, brackets and parapets is recorded. Perforated parapet and merlons add to the gracefulness of the solid-bricked walls of the building. Embossed leaf, pitcher, conical shape, T patterns, scalloped and saw tooth patterns are used in eaves and brackets in cut and dressed brickwork. The walls with sunk panels and on the back side of main building stars in relief are added. The monogram of the Islamia College in embossed is placed at the back wall of upper terrace in the mid of two windows and directly above the middle arch of the back verandah. The whole structure presents beautiful symmetrical balance and the monogram in white color serves as the emphasizing point. The brick walls are laid in header and stretcher style in all buildings.

The study states that the interior walls in Islamia College buildings are simple in construction with plaster coating painted in white. In the classrooms of main Islamia College building marbled dado level is provided while the rest of the interior spaces is painted. The pillars in the mosque area added with bricked dados.

According to the data collected floors were principally built in brick work. Floors in interior spaces and mosque are bricked but they are now replaced by marble flooring except in Roos Keppel Hall where wood flooring still exists. The Verandah in front of Roos Keppel hall and in porch of some hostels checkerboard style is still representing the originality and value of the building. The pathways in the main building, Islamia Collegiate School, recreation center, and verandah of residential areas are still in brick work. In some spaces hexagonal brick tiles are also used. The bricked stair cases leading to the verandah grounds and in the mosque have been replaced by marble flooring. The stair cases in hostels are still in their original material of brick.

The study reveals that brick was considered as the preferable material due to its higher protection against fire, wind, noise absorption and moisture control during the Mughal

and later on in colonial period. In Islamia College Peshawar bricks were chosen because they are naturally efficient due to their thermal mass properties and can control extreme weathers of the region. They also provide a better look and textural surface and needs less maintenance and are low in cost as compared to other building materials. It was observed that most of the decorative features incorporated in the construction also played a vital part in providing support to a structure. Shape reconstruction from silhouettes occluding is beautifully controlled in brick sizing and shapes.

During the study it was recorded that columns in the buildings are added at regular intervals as integrated part of the arches and act as bracing member to enhance the strength of the whole structure. In addition to contributing in structural strength of the building these columns professionally playing their role along with arches, in aesthetic scheme of the building for the exterior as well as the interior. Four types of columns are used in the buildings; square-shaped columns, turrets or buttresses, built-in columns and supportive pillars. The square-shaped pillars and turrets or buttresses are used in Islamia College buildings. Brick structure is followed by decorative bricks in triangular and diamond shaped cut work. Built-in columns are used in Roos Keppel hall which add to the strength and serve to enhance the hall's outlook. The half visible columns octagonal in shape are Corinthian in style, slender and fluted. Their capitals are bell-shaped and lavishly garlanded with acanthus leaves. The bed is convex in shape usually semi-circular and angle nosing. The whole structure is in white color. These columns are repeated with equal intervals filled by a blind arch. These columns create an interesting effect to the simple white color hall. The elongated structure of these columns is intermittent by the gallery which creates a splendid effect. Two supportive pillars for the gallery are also added while the rest of the gallery load is borne by brackets. These pillars are bell-shaped capital which is common Corinthian order and simply decorated and have small octagonal base with a around rim. These pillars are screwed by nuts and bolts at the top and bottom. In the front verandah of recreation center, simple brick columns are used in equal distance. The base and capital is in square shape.

Arch is one of the main architectural elements of Islamia College building. During the study it was recorded that pointed arches and cusped or scalloped types of arches are supplementary elements in the façade of main Islamia College building and these types

of arches are not repeated in other buildings of the college. An interesting feature found in Islamia College building is that these arches are cusped from outside while pointed Gothic from inner side. The reason may be to reduce the cost of construction. These pointed arches add height and they can carry more weight than rounded arch. The curve of the arch either cusped or round represent and add variety and beauty to the flat surfaces and straight lines. The angular creates a pleasing impression. Recessed arch is beautifully arranged by various architectural elements. In the front porch facing south side the upper portion of arches are distributed into three parts: the central part is square shaped where as flanking sides are triangular in shape and all of them are filled with fret work technique. Below this three Gothic arches are provided with uniqueness in arrangement with the central one is larger as compared to the arches on either sides.

Arches are provided to bear the load of the structure and to boost the beauty of the building with the combination of eastern and western style. In the main Islamia College building these arches provide entrances to the verandah. Mainly these arches are used in symmetry having the same height except where they are used as entrance to verandah. Arches differ in width to break the monotony of design. In the front verandah scalloped design arch is used. In the corner of the front verandah ogee arches are used. Arches provided at the main entrances are gigantic and are three-layered. The first layer, a rectangular frame, second a pointed arch style and the third one provides entrance to the verandah. The main architectural benefit of these arches is decorative representing power as well as providing opportunity for greater visual pattern and rhythm.

Blind arches are also part of Islamia college architecture. It is the arch type created for the beautification in a building wall and has been used in different spaces. In outer wall these blind arches are further embellished with decorative windows that are filled with fret work. In Roos Keppel Hall the blind arches are added to create symmetry and balance in the hall and bear the load of the structure.

The recorded data shows that in areas like Islamia Collegiate School and hostels semi circle arches are used while in Khyber house academic blocks, mosque main gates and in prayer hall, pointed arches are created. The residential area is fronted with elliptical arches.

The analysis of Islamia College buildings show that they are enclosed by a pillared verandah. It is important to elaborate here that such types of pillared verandahs or pillared hall are a reminder of a traditional style of the pre-Islamic and Islamic culture which can be clearly observed in the Hindu temple and in the significant style of Mughal architecture. The Verandah serves not only as an intermediate space between outdoor and indoor space but also controls the weather.

The study shows that the main Islamia College building is surmounted by a colossal dome, resting on a terrace shaped drum hemispherical in plan. The central or main dome on the clock tower emphasizes the whole structure. The dome is crowned with inverted lotus executed in high relief. The outer surface is illustriously covered with bricks. It is significant to elaborate here that the dome is flanked on all sides by smaller domes and chuttris. The number of domes and cupolas are built in varying sizes to symmetrically balance the roof structure. The sizes of the main domes are 6 x 7.6ft while the chuttris are 6 x 4.6ft. These chuttris are built in square and octagonal shapes. The central dome facing towards the south is accentuated by an octagonal arched pavilion based on square platform right above the clock structure. On either side of this main structure, dome chambers are erected with cupolas at four corners. Parallel to this main dome three dome chambers are erected on each side i.e. three in the east side and three in the west. At the back of the building the same style is copied except for the main dome. Each main dome is supported by four small chuttris of square shape to enhance the beauty. The corners made by two arched-walls in front of verandah are supported by square columns and at the top extended by square chuttris. Only the chuttris extending from turrets (columns) are in octagonal shape. These turrets are provided only on both ends of the main entrance arches which are wider than the others arches. These chuttris are embellished with small arches. Inverted Lotus flower motif is designed at the top of all domes and chuttris ending in a pinnacle. At the base and around all the domes and chuttris decorative motifs in cut bricks are added. These dome chambers are hollow in structure. The Islamia College mosque is crowned by three domes with ribbed or grove design painted in white. The central dome is larger in size and the domes on either side are slightly smaller in size. These domes are finished with inverted lotus beads and finial. The white color dome represents the purity of the sacred space. Other buildings are not elaborated with dome structures.

Western Gothic arched doors, windows and ventilators are used in the main building. Double panel doors and windows in casement style are used through out the buildings. The material used is wood inserted with glass panels. The use of large 9x9ft. windows³⁷ with glass insertion make a class room well-ventilated and lighted and gives it a western touch. These windows are fabricated on opposite walls to provide the room with cross ventilation. All the spaces are further furnished with ventilators. The main purpose of these ventilators is to get rid of hot stale air of the interior spaces. Ventilators and windows create air draft in which hot stale air is removed through ventilators and fresh air comes in through windows and even doors. The doors serve as the exit and entry to any place. In Islamia College buildings rooms are provided with two doors on opposite walls for movement and the circulation path is kept clear. The height and width of doors is sufficient as required for any commercial building. The main entrance door of Roos Keppel hall is larger in size. The main gates are provided for access to hostels.

The recoded data shows that the shapes of doors, windows and ventilators in Islamia Collegiate School, library, recreation center and residential block is rectangular with the top in elliptical shape while in the main Islamia College building and mosque are rectangular in shape with pointed top doors. Windows and ventilators are also provided.

The data shows that pierced screens in the form of decorative windows were added in the main building of Islamia College and library. These window structures are rectangular in shape and added with fret work in terracotta, supplemented with mullion and brick edging. Convex shape bricks with a conical end are used adding support to the base of decorative windows. The base is scalloped creating a fringe to the window. Fret work ventilators are also added in the building like in stores. Some of the hostel façades are enhanced by adding a “Jhroka”. They are provided in warden lodges right above the main hostel gates. They are extended outward and supported by iron brackets.

The ceilings in Islamia College buildings are made up of simple bricks and steel beams. These beams give support to the ceiling and break the vertical lines of the ceilings in long verandahs. The height of these ceilings is almost the same all over the building except in some areas like verandahs in residential areas, library, recreation center and Islamia Collegiate School. The ceiling of Islamia College mosque is plastered in white

³⁷ http://en.wikipedia.org/wiki/English_Gothic_architecture#Perpendicular_Gothic

and decorated floral motifs to add beauty and symmetry to balance the highly decorated walls and arches. In Roos Keppel Hall the ceiling design is different. The surface is covered with white plaster and is designed with diagonal lines. By the combination of four diagonal panels a beautiful geometrical pattern is created.

The main Islamia College building is basically a single storey. Stairs are needed only for the approach to the clock tower and gallery in the Roos Keppel Hall. These stairs are straight flight stairs without any landing. They are constructed in a small room. The material used for these stairs is brick. No change has been brought to these stairs regarding the material and its appearance. The reason may be that they are out of sight. To approach the clock tower a metal stair case is provided at the back in open terrace. In Ross Kepple Hall wooden stairs are provided for stage on its three sides. The wooden stairs give an effect of continuity as the floor and stage of this hall is also made up of wood.

Other stairs used throughout the building are raised from plinth level to the verandah. They are provided at the front of the main entrance arches and the bricked stairs are now renovated with marble. A small flight of stairs are provided from the back courtyard for the pathway leading to hostels and other academic blocks. All steps provided for approach to verandahs or pathways are decorated with curvy edges which flow down to the bottom.

Narrow winding stair cases in hostels are provided for approach to the upper floor and warden lodges. These stairs are erected in curves but without landing. Bricks are still retained as their construction material. A wooden railing is provided on the right hand side of the wall. In Islamia College mosque a stair case in minaret is erected to lead the “moazeen” to the eastern edge.

The Islamia College buildings have well-planned water shoot system. In the main building they run close to the columns and in the corners of the building. These metal water shoots start from the lower part of the eaves and end with a curve near floor painted in green color. They are placed symmetrically at both ends of the arches.

Later additions in the buildings of Islamia College show different types of water shoots e.g. in library gargoyle shape is used. The library building has its ceiling in two levels, lower level ceiling for verandah and high level for halls and rooms. The rain water needs to be drained from both levels. The upper level water shoots are placed at the lower edge of the eaves to drain out rain water through metal pipes while simple terracotta figure gargoyles water drainer, without any pipes are used for verandah's roof. These gargoyles are placed in a rectangular conical brick structure below the eave. Same type of gargoyles are provided in Khyber house and other academic buildings. In Islamia College hostels, residential areas, Islamia collegiate school and mosque metal water shoots are provided. In the mosque and recreation center built in wall water drainers are provided. These drainers are open in structure.

The data reveals the use of grills and jalli work in different areas of Islamia College for varying purposes and with different materials. In the main Islamia College building the upper terrace has pillared-domes chambers. These pillars are connected by a terracotta railing in zigzag pattern topped with the same material. Another style of terracotta grills could be seen in the front porch terrace. They are designed in vertical bands with top and bottom railing of the same material. The upper portion of the arches in porch facing toward the south is also filled with fret work screen.

Other types of jalli/grill/ railing used throughout the main building of Islamia College is metal grill with floral pattern. This grill is used in front of the verandah in white color with horizontal railings in green at the top and bottom. Simple metal window grills are also added to some of the class rooms and offices. The design, style and color of these grills vary according to the area. Some of the arched windows are covered with additional frame in arched shape with diamond shaped grill. In the main Islamia College building, library, hostels and other academic blocks windows and ventilators are added with grills. The rest of the windows and ventilators are covered with wire gauze. In Roos Keppel Hall the gallery is provided with white wooden grill in geometrical pattern. The design is enclosed in a rectangular panel. A fringe or scalloped design is added at the base.

The architectural decorative ornamentation is used to elaborate the structural parts of the buildings. This decorative enhancement can be added to the columns, friezes, doors,

windows, parapets, eaves, brackets etc. In Islamia College buildings molding is used in the columns of Roos Keppel Hall. The shaft is enhanced with fluted strips and the base of these columns are enhanced with horizontal lines breaking the solid structure of these columns. The friezes in geometric pattern like horizontal bands running throughout with the ceiling line. The ceiling itself is molded in transverse bands. The grill in repetition of geometric motifs is beautifully placed in the gallery of Roos Keppel Hall. The grill pattern is arrangement of diagonal and horizontal lines and these lines create a fascinating pattern. At the top and the bottom horizontal bands are added and fringe is designed in leaf pattern.

Metal grills are added on windows for protection. Designs of these grills are composed of simple geometric pattern of vertical and horizontal lines. These grills are colored in green exactly like the windows. In Islamia College mosque the painting technique is used in the combination of geometric and floral design making it a vibrant piece of decorative art. Geometric designs are used in different portions of the mosque. Mostly straight lines and diagonal strips are painted in blue, brown and green colors. These lines provide border and edging to all the door openings and arches.

In Islamia College floral designs could be seen in the column capital of Roos Keppel Hall. At the top most edge of capital dentil, boss, volute, rosette and acanthus leafs make up the decorative parts. Other floral molding patterns are used in Islamia College mosque. They are used in the corners of the entrance gates. To highlight the edge of leafs and petals they are further embellished with maroon- brown color. Further the flowing lines of calligraphy and flower petals in the mosque hall make it a dazzling art piece. The floral designs in paintings can only be observed in Islamia College mosque. Entire walls, arches columns and ceilings are beautifully painted. These paintings embellish both exterior and interior of the main hall. These designs are added not only as single motif but also as flowing pattern. The use of calligraphy is also a part of the painting. Blue, maroon-brown, mustard and green on white background are the colors used in the entire mosque.

The study shows that metal brackets are used in Roos Keppel Hall of Islamia College to support the gallery. They are beautifully designed in floral motifs. Grills placed in between arches of front verandah are adorned with floral metal design grills painted in white. The curvilinear lines compose a unit consisting of three parts: base, bottom and

top. All the three parts are adorned with leaf motif as a separate unit. The whole unit is enclosed on top and bottom rail.

It was observed that the main building of Islamia College is embellished with detailed decorations in simple but impressive manner. The Roos Keppel Hall is embellished with stucco tracery details, blind arches, and built-in **Corinthian Columns** with an imposing gallerys resting on brackets all in white color, making the interior a symbol of purity with its dignified height of the ceiling. The use of geometric pattern wood flooring and stage gives the whole interior a dramatic western look.

During the last century the existing Islamia College has served the people and has extended enormous benefits to the general mass as regarding education. The social benefits that the people will derive from the existence of this prestigious educational institute cannot be evaluated in figures. It may be rationally and vigorously concluded that this center of educational hub will continue to serve the community and is bound to remain a centre of attraction as a proud and rewarding monument of history, a landmark in the urban scale for centuries to come.

Architecture of Islamia College represents uninterrupted living tradition existing in architecture of sub continent during the period of British raj connecting present and the past. More emphasis is given to the volume and symmetry with strong attention to intricate details. This made the Islamia College buildings more articulate, graceful and temporal. The architectural design became landmark in the history of Peshawar.

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