

EXAM ANALYSIS REPORT **2019**



PUNJAB EXAMINATION COMMISSION



PEC Exam Analysis Report 2019

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EXAM ANALYSIS REPORT

2019

عمل سے زندگی بنتی ہے جنت بھی جہنم بھی
یہ خاکی اپنی فطرت میں نہ نوری ہے نہ ناری ہے

(ڈاکٹر محمد اقبال)



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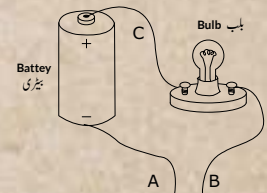
Abbreviations & Acronyms

CEO (EDU)	CHIEF EXECUTIVE OFFICER (EDUCATION)
CRQ	CONSTRUCTED RESPONSE QUESTION
CTSC	CLUSTER TRAINING & SUPPORT CENTER
MCQ	MULTIPLE CHOICE QUESTION
OEMS	ONLINE EXAM MANAGEMENT SYSTEM
OSRS	ONLINE STUDENT REGISTRATION SYSTEM
PEC	PUNJAB EXAMINATION COMMISSION
QAED	QUAID-E-AZAM ACADEMY FOR EDUCATIONAL DEVELOPMENT
SED	SCHOOL EDUCATION DEPARTMENT
SLO	STUDENT LEARNING OUTCOME



Taxonomical Cognitive Levels

Knowledge	This is the lowest level of questions and requires students to recall information. Knowledge questions usually require students to identify information in basically the same form it was presented.
Example Question	Electric current flowing in a copper wire is the flow of: (a) atoms (b) ions (c) electrons (d) protons
Understanding	These questions go beyond simple recall and require students to combine information to understand the situation.
Example Question	Which of the following statements is correct? (a) Electrons attract each other (b) Protons repel each other (c) Electrons repel protons (d) Protons attract each other
Application and Higher Order Thinking	At this level, students apply their knowledge and understanding in a new situation. Analyzing and synthesizing the information to evaluate situation.
Example Question	The diagram given below shows an open electrical circuit with battery, bulb and three wires. Wires are labeled as A, B and C. What should be done to glow the bulb? (a) Remove wire C (b) Remove the battery (c) Connect wire B and C (d) Connect wire A and B



Executive Summary

Punjab Examination Commission (PEC) has gathered the details of exam related activities from registration of the students to compilation of the results and analysis of the data obtained from PEC exams 2019 in a document, PEC Exam Analysis Report 2019. This report presents student achievement in grade 5 and 8 exams of PEC on different variables. This year more than 2.6 million students registered in PEC exams. The registered students were from public schools, private schools and private candidates from the 36 districts of Punjab. It is important to mention here that PEC exams are mandatory for the students of grade 5 and 8 of all public schools while discretionary for students of private schools and private students in the province of Punjab.

Like every year, candidates were assessed in basic five subjects i.e. English, Urdu, Mathematics, Science and Islamiyat/ (Ethics was an optional subject for Non-Muslim students) in grade 5 and 8. Four different versions were developed for each subject with same difficulty and cognitive level of test items. To accommodate the students of both Urdu and English medium schools in PEC exam, the exam papers of Mathematics, Science, Islamiyat and Ethics were bilingual.

The analysis was carried out on different variables to draw conclusions on achievement mean score of the students. The trend of overall performance of students in grade 5 indicate that Islamiyat was the highly scored subject followed by Urdu, English, Mathematics, Science and Ethics with mean ranging from 70% to 44% respectively. For grade 8, the trend overall performance showed that Islamiyat was again highest score achieving subject followed by Urdu, English, Mathematics, Ethics and Science with mean scores ranging among 77% and 52%. As each exam paper was comprised of MCQ and CRQ portion, it was observed that students performed better on MCQs than CRQs in both grades. It was also observed that language of the exam and version of the paper received during exam had insignificant effect on the performance of students. In grade 5 overall gender wise analysis showed that girls performed better on CRQs than boys whereas both boys and girls had similar achievement score in MCQs portion. In grade 8, girls performed better on CRQs portion while the boys performed better on MCQs portion of the examinations. Analysis on types of students based on their registration in PEC exams 2019 showed that in grade 5 students from public schools outperformed and scored 320/500 mean score while students from private schools and privately registered students could score 311/500 and 279/500 respectively. While in grade 8 students from private schools achieved better mean scores i.e. 332/500 followed by students from public schools (320/500) and private registered students (286/500).

Population based frequency distribution curves shows the trend on overall performance of students within each subject. In grade 5 the curves shows that more students could score better in the subject of Mathematics, English, Urdu and Islamiyat but in the subjects of Science and Ethics, there were normal distributive curves. While in grade 8, it was observed that the subjects of Mathematics, Ethics and Science showed normal distribution curves which indicate the average performance of the students in these subjects. While in English, Urdu and Islamiyat students performed better that means they found these subjects competitively easy.

Overall District wise performance of students showed that districts Narowal, Vehari, Khanewal, Rajanpur and Layyah were the high achieving districts, while the districts Jhelum, Sahiwal, Rawalpindi and Lahore were the lowest achieving districts in both grade 5 and 8 in PEC exams 2019.



Scale of Exams 2019

In PEC exams 2019, a total of 2,644,183 students of grade 5 and 8 were registered using software named Online Student Registration System (OSRS) from the whole province. Out of which 2,577,966 students appeared in the exams and 2,269,364 students passed the exams effectively, which makes 88.03% pass percentage (candidates who obtained 33% marks were considered pass). A detailed summary of registered, appeared and passed students of grade 5 and 8 along with pass percentage is shown in Table 1 and Table 2 respectively.

Table 1: Summary of Students and Result of Grade 5 (2019)

Grade 5					
Type	Gender	Registered	Appeared	Declared Pass	Pass %
Public School Students	Boys	518,769	508,866	441,683	86.80
	Girls	519,445	511,406	460,890	90.12
Private School Students	Boys	266,496	257,129	225,081	87.54
	Girls	227,537	220,346	199,784	90.67
Private Registered Students	Boys	24,682	22,788	16,861	73.99
	Girls	16,917	15,908	12,642	79.47
Total		1,573,846	1,536,443	1,356,941	

Table 2: Summary of Students and Result of Grade 8 (2019)

Grade 8					
Type	Gender	Registered	Appeared	Declared Pass	Pass %
Public School Students	Boys	388,204	381,278	336,318	88.21
	Girls	367,403	362,411	320,372	88.40
Private School Students	Boys	138,061	131,115	114,134	87.05
	Girls	132,089	126,437	111,971	88.56
Private Registered Students	Boys	26,804	23,790	17,217	72.37
	Girls	17,776	16,492	12,411	75.25
Total		1,070,337	1,041,523	912,423	

■ Boys ■ Girls



This colossal activity is done with the help of staff deployed who performed different duties in conduct and marking of exams, from the School Education Department (SED) using an online system named Online Employee Management System (OEMS). Number of exam centers and summary of staff deployed to conduct exam 2019 of grade 5 and 8 in the province of Punjab is given in Table 3.

Table 3: Exam Centers and Staff deputed to conduct PEC Exam (2019)

Exam Centers and Staff	Grade 5	Grade 8	Total
Exam Centers	7,494	6,327	13,821
CTSC Heads	-	-	1,951
Resident Inspectors	6,870	5,851	12,721
Superintendents	7,472	6,314	13,786
Dy. Superintendents	7,457	6,303	13,760
Invigilators	51,914	36,587	88,501
Class -IV	7,264	6,200	13,464

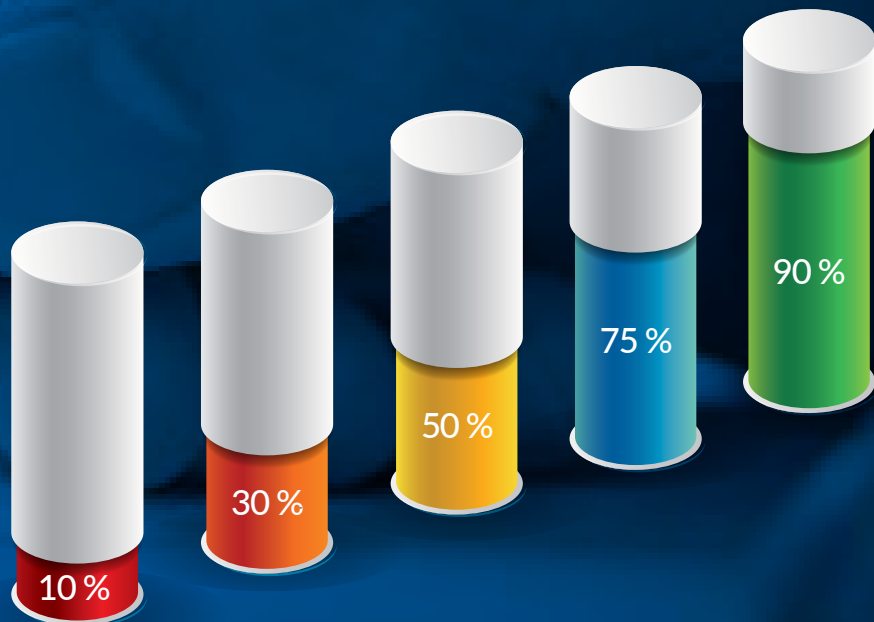
For marking of PEC exams a total of 715 marking centers were established at tehsil level. In each marking center sub examiners followed rubrics developed by subject specialist at PEC and syndicate marking scheme, IT teachers entered online data of marks; they all worked under the supervision of head examiners and CTSC heads. Summary of marking staff deployed in PEC exam 2019 activity is shown in Table 4.

Table 4: Marking Staff (2019)

	Grade 5	Grade 8	Total
Head Examiners	1,418	1,157	2,575
Examiners	14,815	12,396	27,211
IT Teachers	715	715	1,430
Assistants	1,418	1,157	2,575



EXAM ANALYSIS REPORT 2019



Performance of Students in
Grade 5 & 8 in PEC Exams 2019

Performance of Students in Grade 5 & 8 in PEC Exams 2019

This section comprises of two parts: the first part highlights the performance of students in Grade 5 while the second part presents the performance of students in Grade 8.

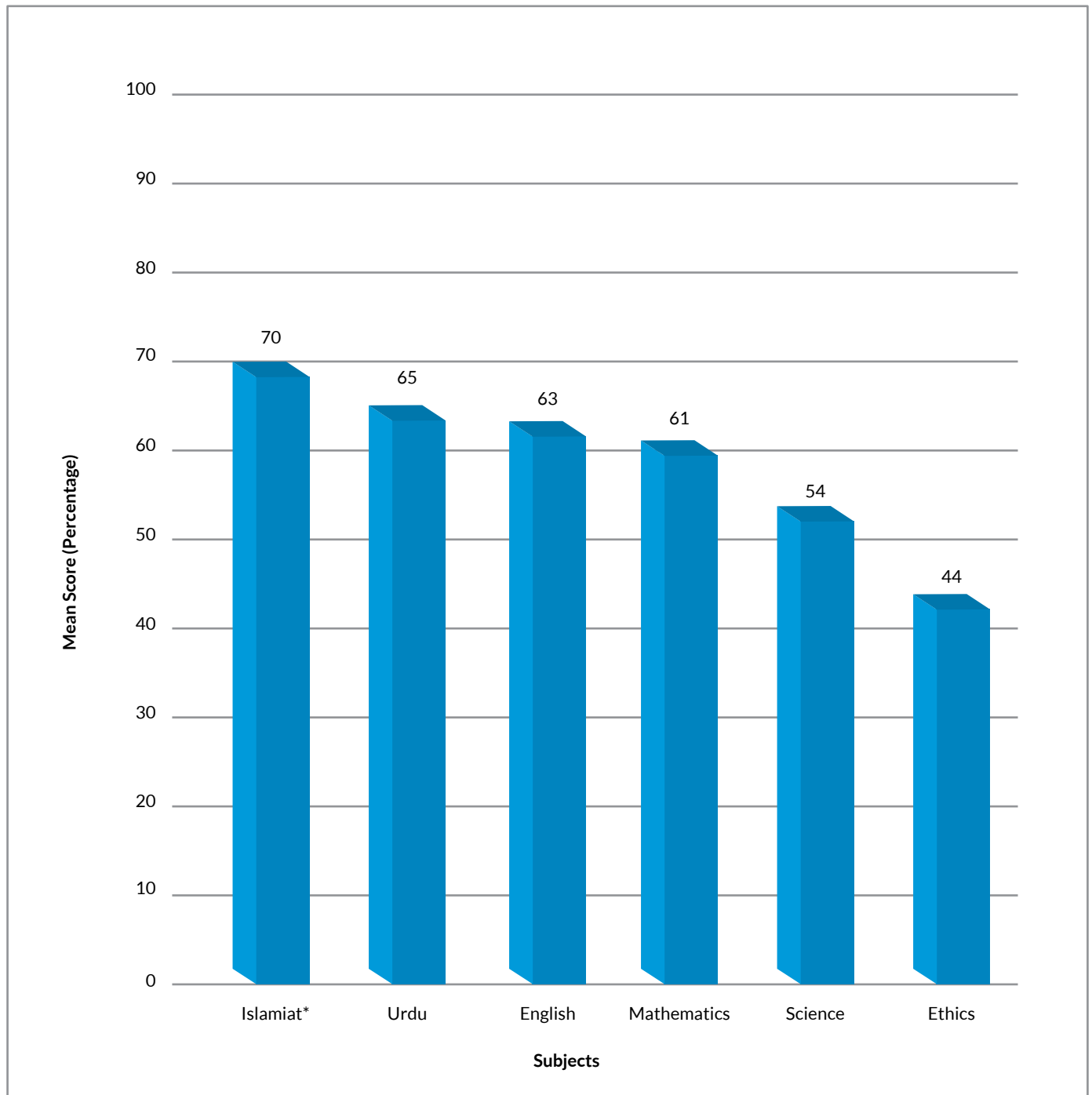
Performance of Students in Grade 5

Grade 5 Key Findings

- The trend of subject wise students' achievement score (%);
 - o Islamiat*, Urdu, English, Mathematics, Science and Ethics with 70%, 65%, 63%, 61%, 54% and 44% mean score respectively.
- The trend of subject wise performance on MCQs is;
 - o Islamiat, Urdu, Mathematics, English, Science, and Ethics.
- The trend of subject wise performance on CRQs is;
 - o Urdu, English, Mathematics, Science, Islamiat, and Ethics.
- Overall students performed better on MCQs (69% mean score) than CRQs (46% mean score) portion.
- Overall girls scored better mean score (%) than boys in all subjects except Mathematics where they both scored equal mean percentage.
- Trend of overall performance of students by type of their registration is;
 - o Students from public schools, Students from Private schools, and Private registered students.
- Overall subject wise, students from rural areas performed better than that of the urban areas in all subjects except Ethics.
- Overall, the districts Narowal, Vehari, Khanewal, Rajanpur and Layyah are top performing districts in grade 5.

*Marks for Nazra Quran portion (max=40%) are included in the overall mean percentage of students.

Subject Wise Performance of Students (Grade-5)

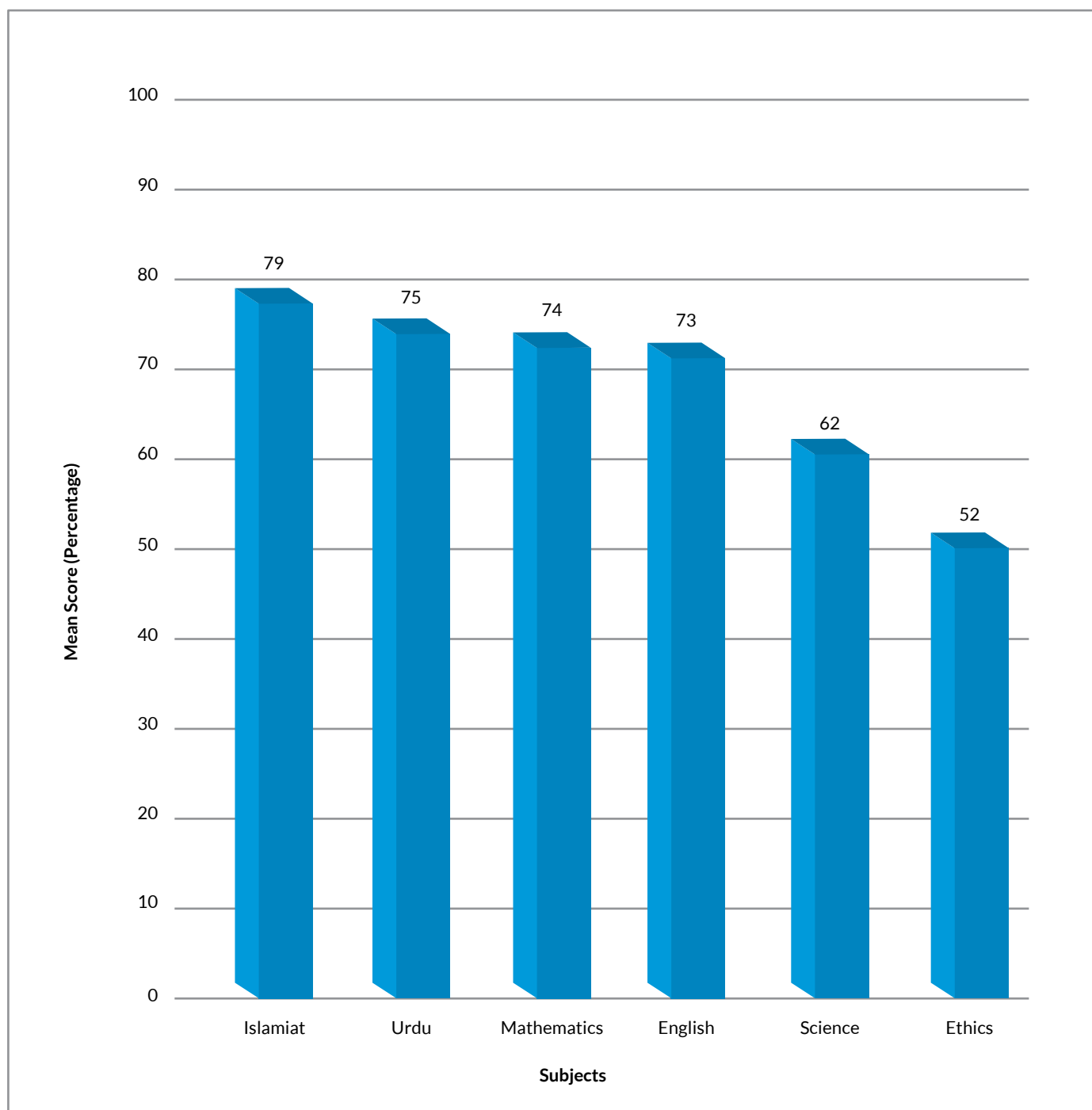


Graph 1: Subject wise mean achievement score (%) of students (Grade 5)

Graph 1 presents the graphical description of the subject wise overall performance of students in grade 5. The result indicates that the students performed better in the subject of Islamiyat and scored the highest mean score which was 70%. It is necessary to mention that the marks of “Nazra” were also included in the total marks of “Islamiyat”. A little bit difference could be observed in the performance of students in the subjects of Urdu, English, Math and Science with mean scores 65%, 63%, 61% and 54% respectively while the mean score in Ethics was at the lowest end i.e. 44%.

*Marks for Nazra Quran portion (40%) are included in the overall mean percentage of students.

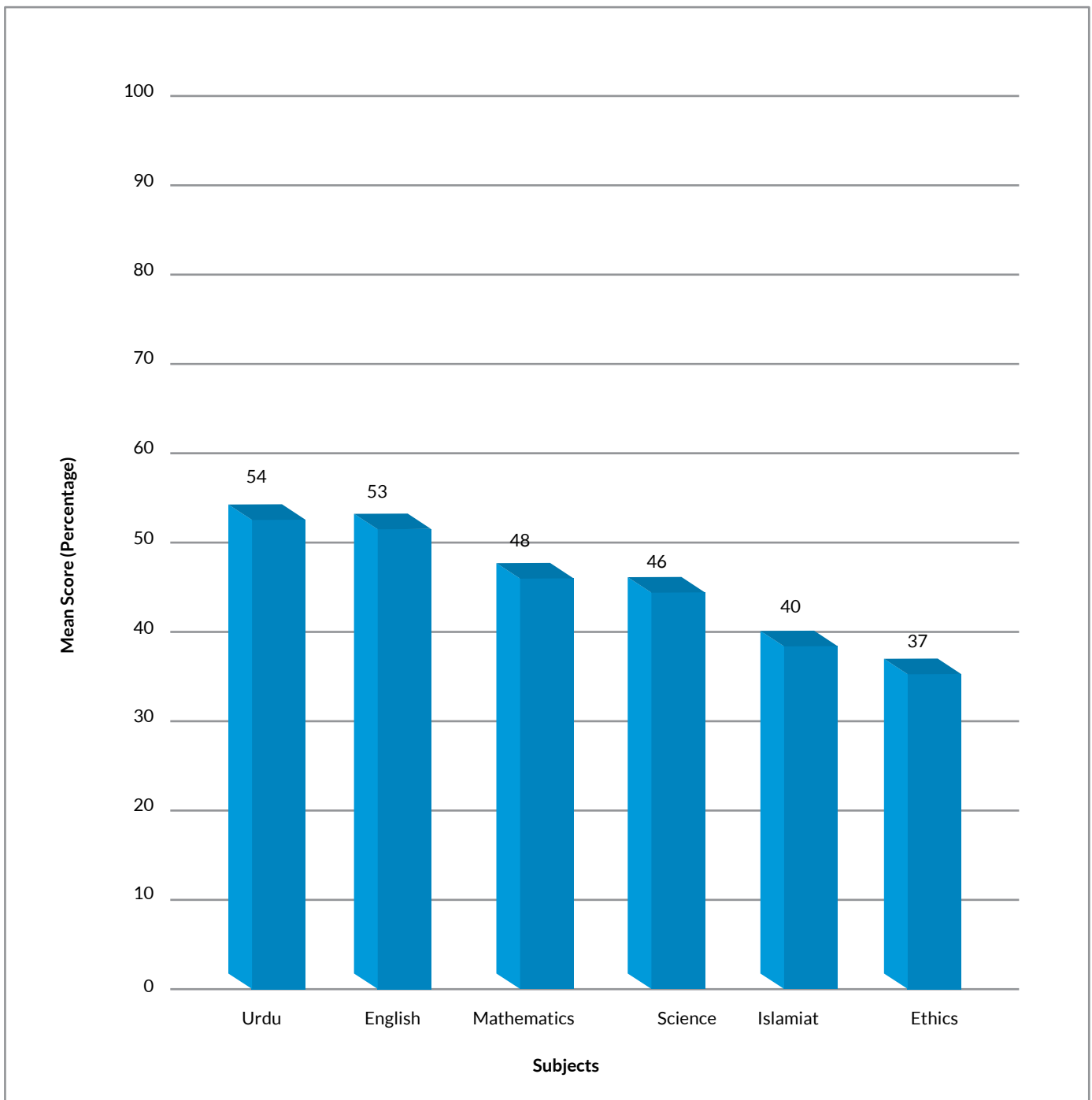
Performance of Students in MCQs (Grade-5)



Graph 2: Subject wise mean achievement score (%) of students in MCQs (Grade 5)

Graph 2 shows the overall performance of students in MCQs portion of all subjects at grade 5 level in PEC exams 2019. The result indicates that the students scored more than 70% mean score in the subjects of Islamiat, Urdu, Mathematics and English i.e. 79%, 75%, 74% and 73% mean score respectively. While in the subjects of Science and Ethics, the students scored 62% and 52% mean score respectively. The lowest mean score in MCQs portion was observed in the subject of Ethics.

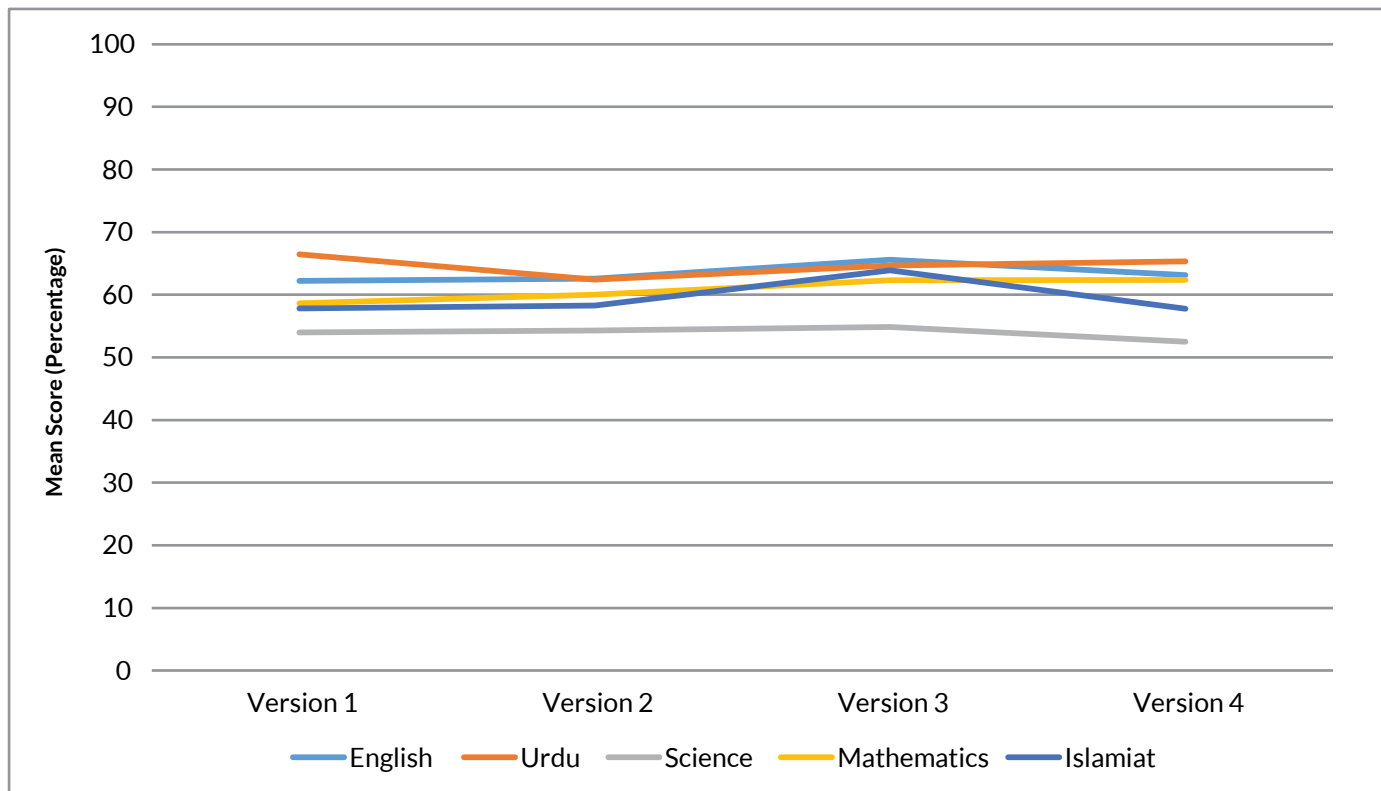
Performance of Students in CRQs (Grade-5)



Graph 3: Subject wise mean achievement score (%) of students in CRQs (Grade 5)

The mean achievement score of students in CRQs portion of different subjects in grade 5 is shown in Graph 3. The graph exhibits the students' better performance in the subject of Urdu followed by the subjects of English, Mathematics, Science, Islamiyat and Ethics with 54%, 53%, 48%, 46%, 40% and 37% mean scores respectively in CRQs portion.

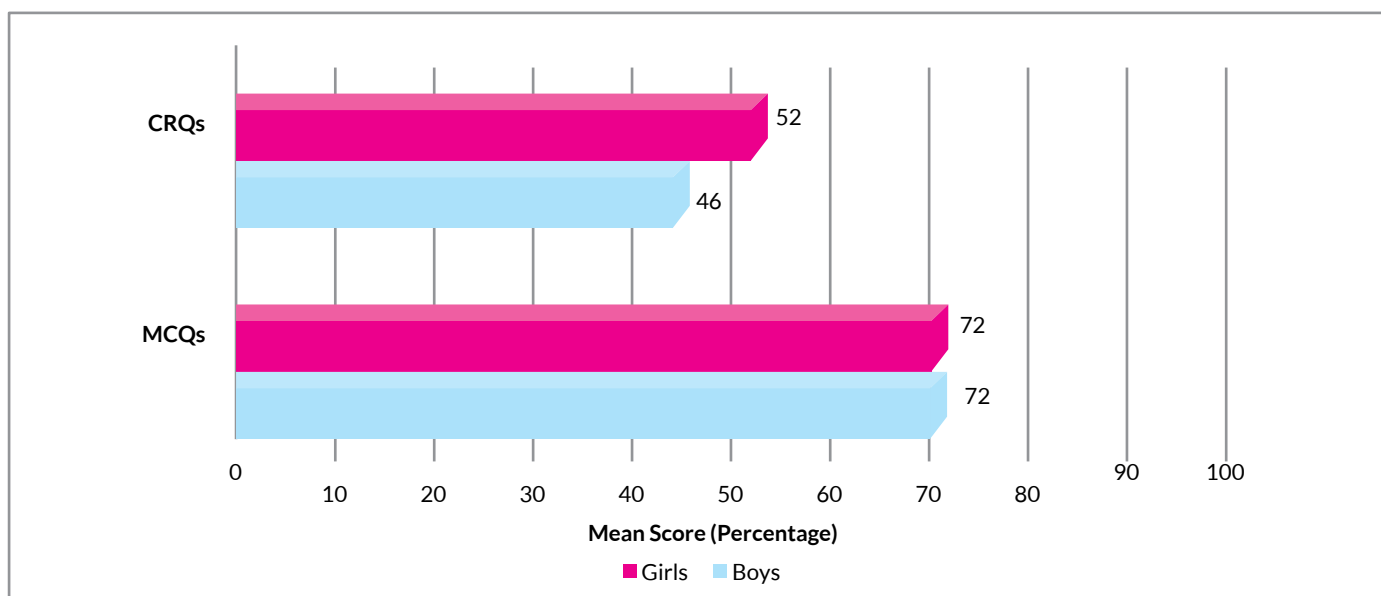
Version Wise Performance of Students (Grade-5)



Graph 4: Version wise performance of students (Grade 5)

The performance of students in all subjects across four versions of grade 5 exams is shown in Graph 4. All the four versions of each of the subject were aligned with each other on the basis of cognitive level and SLOs. The achievement of the students in all versions of a subject is more or less similar in the subjects of English, Urdu, Mathematics and Science. In Islamiat the trend line is slightly deflected on Version 3.

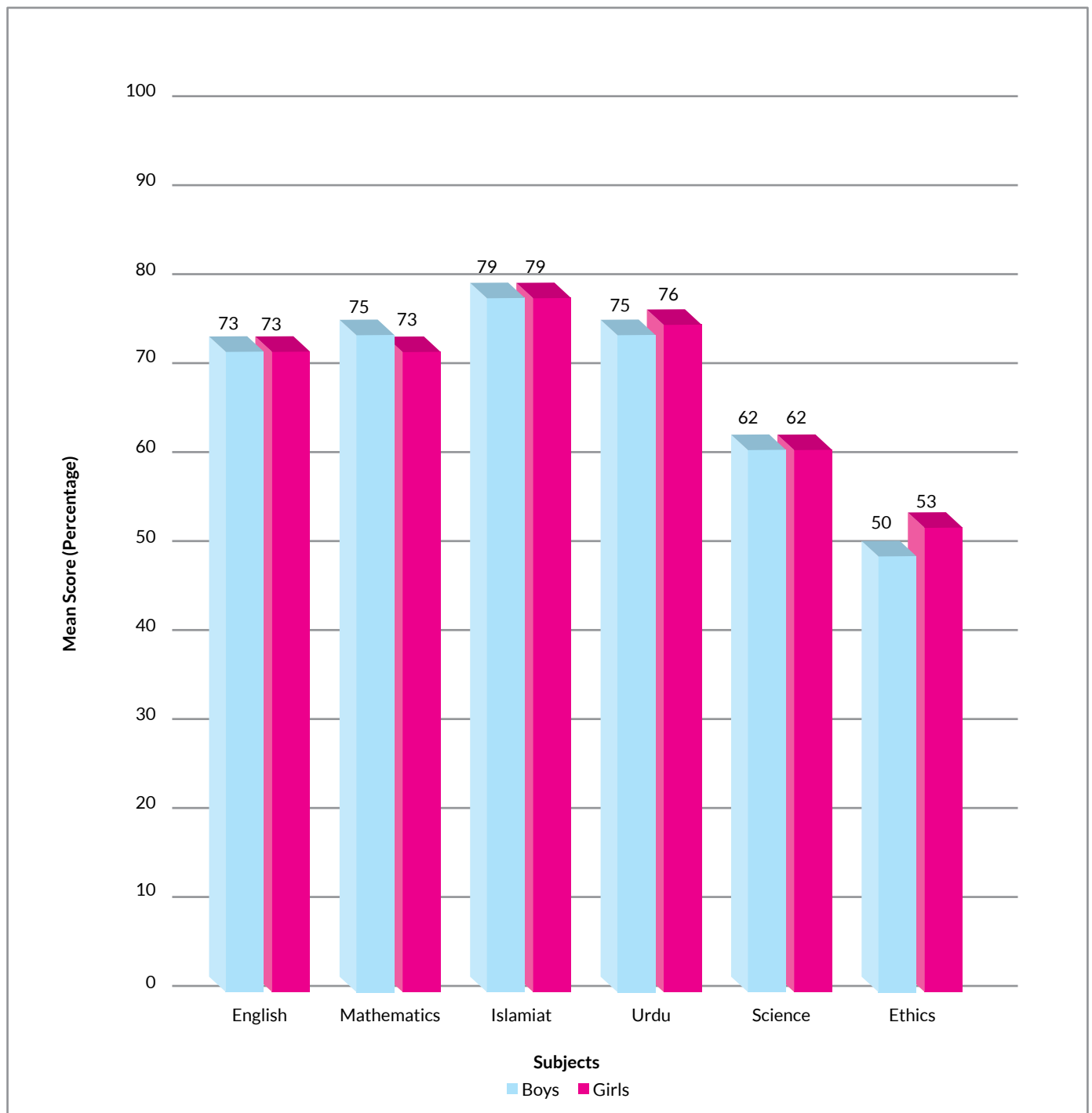
Gender Wise Performance of Students in MCQs and CRQs (Grade-5)



Graph 5: Gender wise mean achievement score (%) of students (Grade 5)

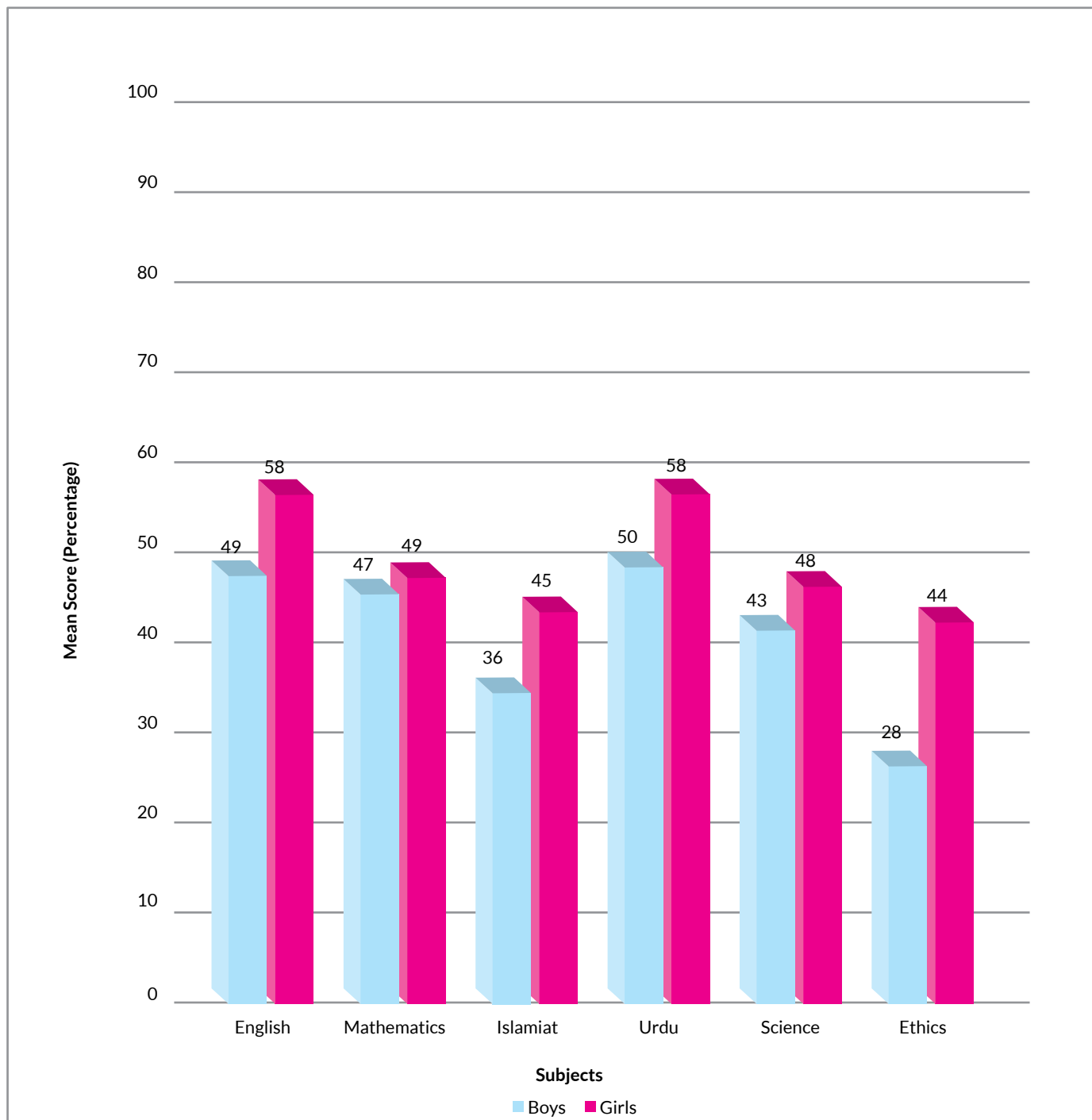
Analyzing the performance of boys and girls in PEC exams 2019 at grade 5 level depicts that the mean score of boys and girls did not differ in MCQs portion, with both scoring an average of 72%. However, the girls had a higher mean score of 52% as compared to the boys' in CRQs portion which was 46%.

Gender Wise Performance of Students in MCQs of Different Subjects (Grade-5)



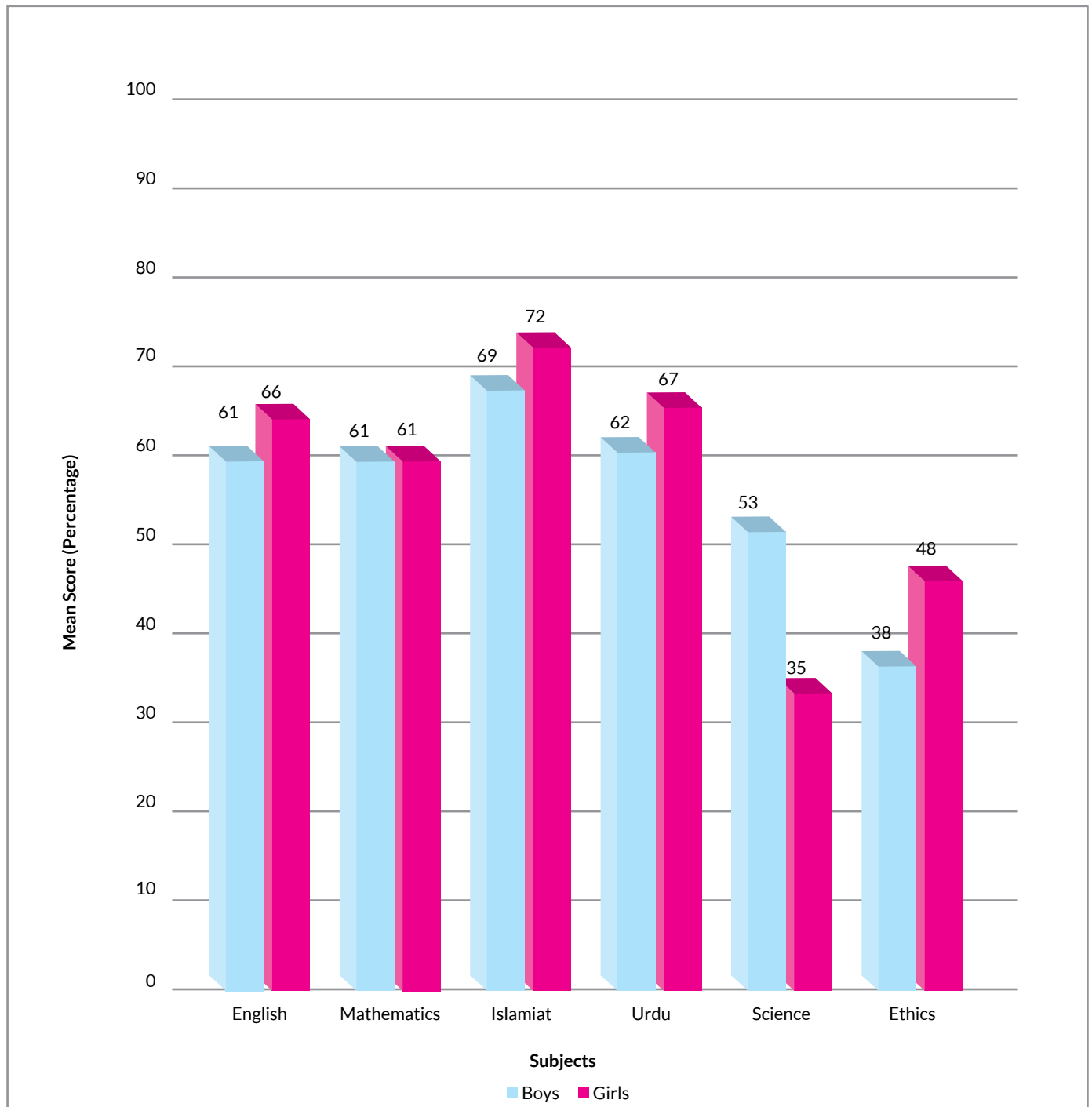
Graph 6: Subject-wise mean achievement score (%) in MCQs by gender (Grade 5)

Graph 6 shows that the mean scores for each gender in MCQs were same in the subjects of English, Islamiyat and Science with both the boys' and girls' mean scores being 73%, 79% and 62% respectively. From the above graph, it can be seen that the girls performed slightly better in the subject of Urdu and Ethics with a mean scores of 76% and 53% as compared to the boys' with mean scores of 75% and 50% respectively, whereas Mathematics is the only subject in which boys achieved better mean score (75%) than girls (73%) mean score.

Gender Wise Performance of Students in CRQs of Different Subjects (Grade-5)**Graph 7: Gender wise performance of students in CRQs of different subjects (Grade 5)**

Graph 7 represents the performance of boys and girls in CRQs of different subjects in grade 5. It is evident that the girls showed better performance in CRQs portion of all six subjects. The girls not only performed remarkably better in English, Urdu, Islamiat but they also outperform boys in Mathematics and Science.

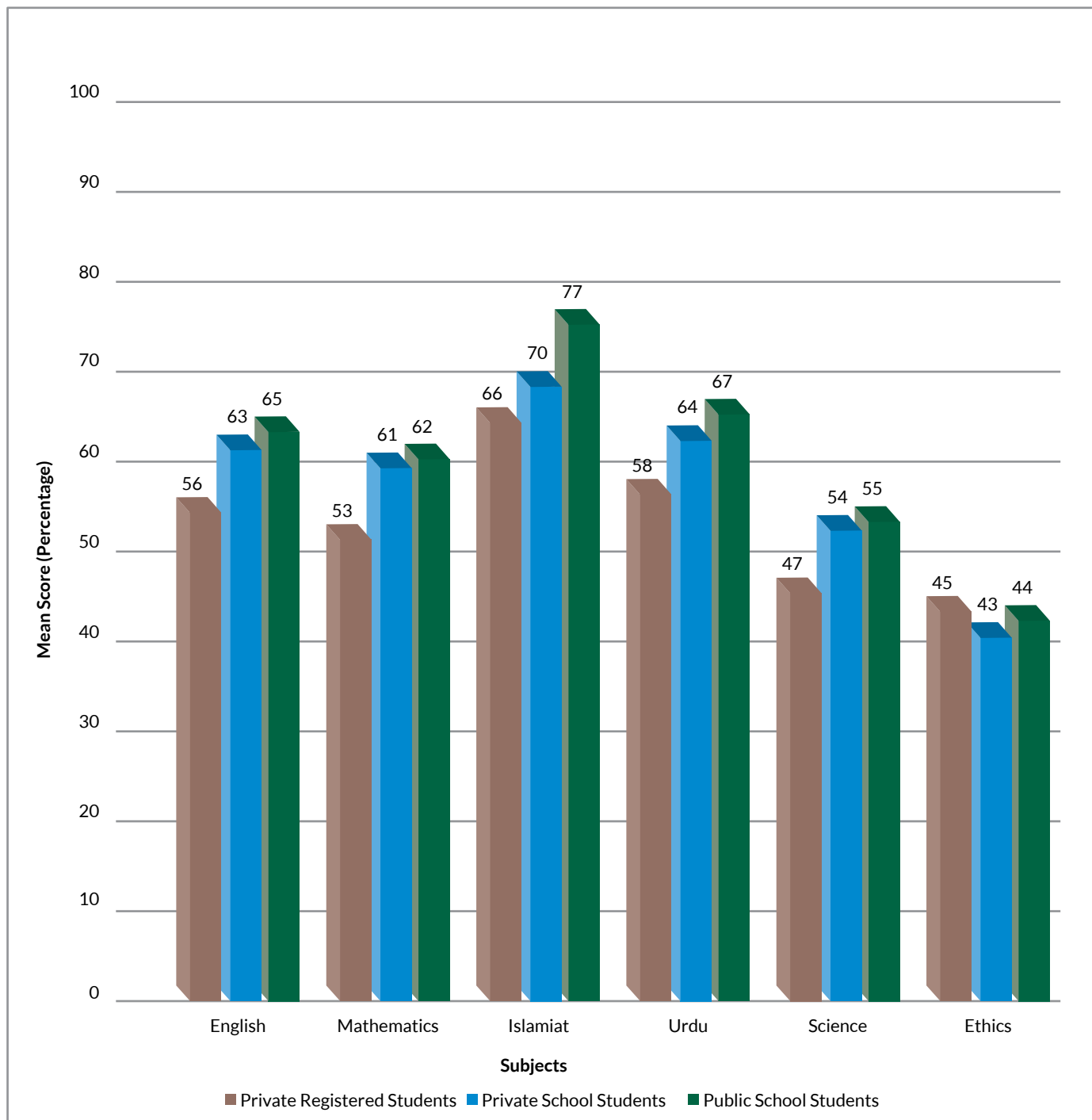
Gender Wise Overall Performance of Students in Different Subjects (Grade-5)



Graph 8: Gender wise overall performance of students in different subjects (Grade 5)

Graph 8 presents the results of gender wise overall performance of students in different subjects. Across all the subjects except for Mathematics, girls earned higher mean scores than boys. The result showed that the gap in mean scores between boys and girls performance were the highest for the subject of Ethics and the lowest for Science whereas equal for Mathematics.

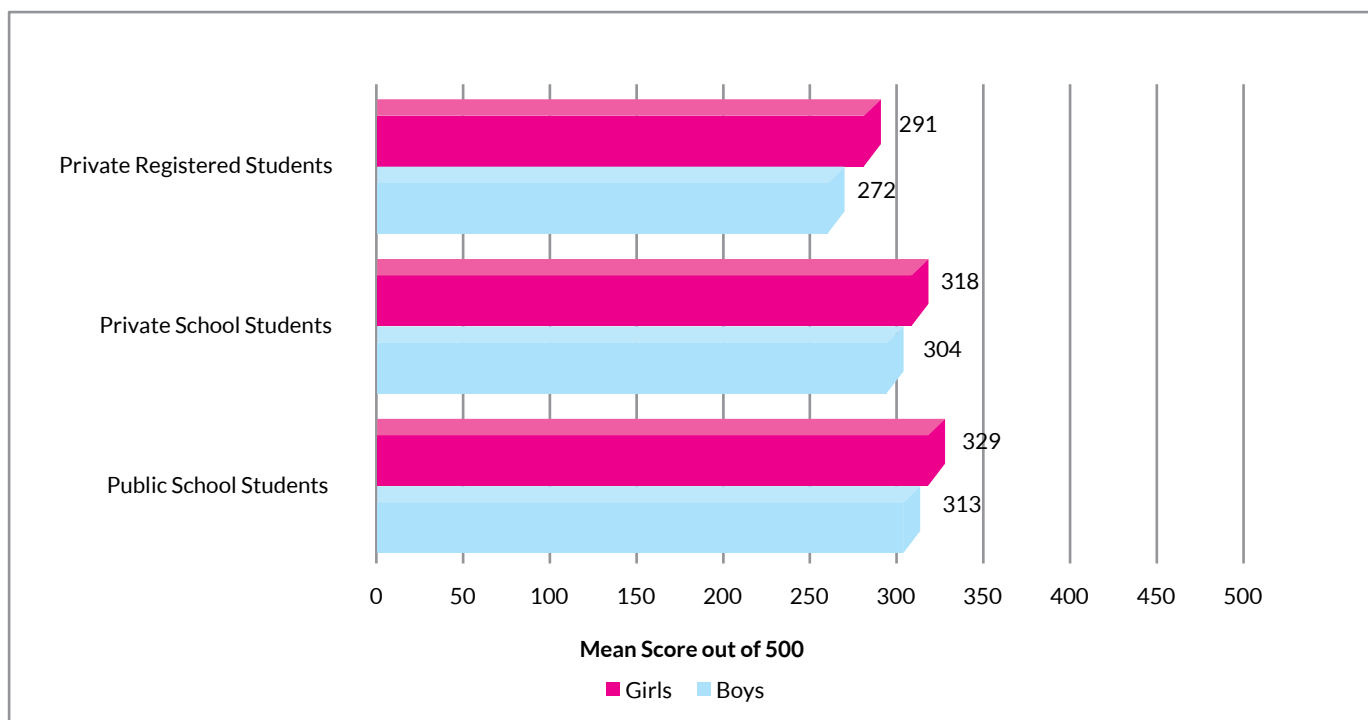
Subject Wise Performance of Students by Type of Students (Grade-5)



Graph 9: Subject wise performance of students by type of students (Grade 5)

Comparative graphical analysis regarding performance of students in all six subjects between types of students based on their mode of registration in PEC exams as public school students, private school students and private registered students is shown in Graph 9. The result indicates that students from public schools were performed considerably better than private school students and private registered candidates in all the subjects except "Ethics" where private registered students did somewhat better than others, though the difference was insignificant between their mean scores.

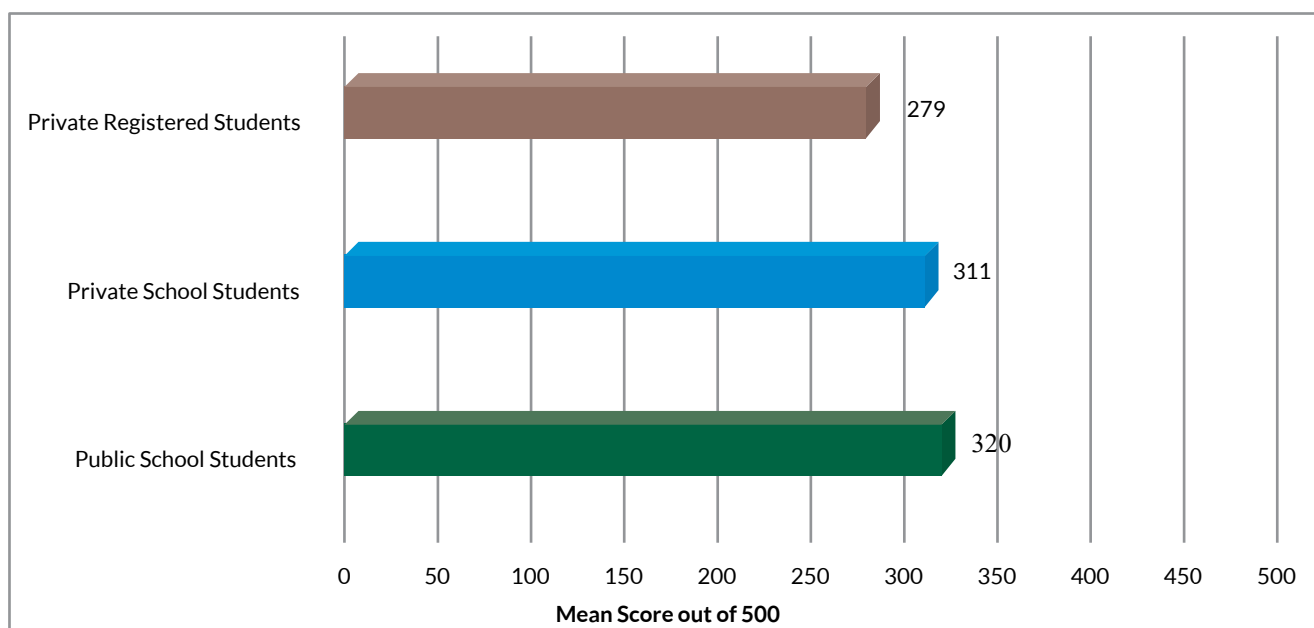
Gender Wise Performance of Students by Type of Students (Grade-5)



Graph 10: Gender wise performance of students by type of students (Grade 5)

Graph 10 shows the comparison of overall performance of boys and girls from public schools, private schools and private registered students in terms of mean score out of 500. Gender wise, girls have performed better than boys in all types of students. It could be seen from the above Graph that students belonging to public schools did better and achieved higher mean scores, i.e. 313 for boys and 329 for girls, while the performance of private registered students was found the lowest with the mean score of 272 for boys and 291 for girls.

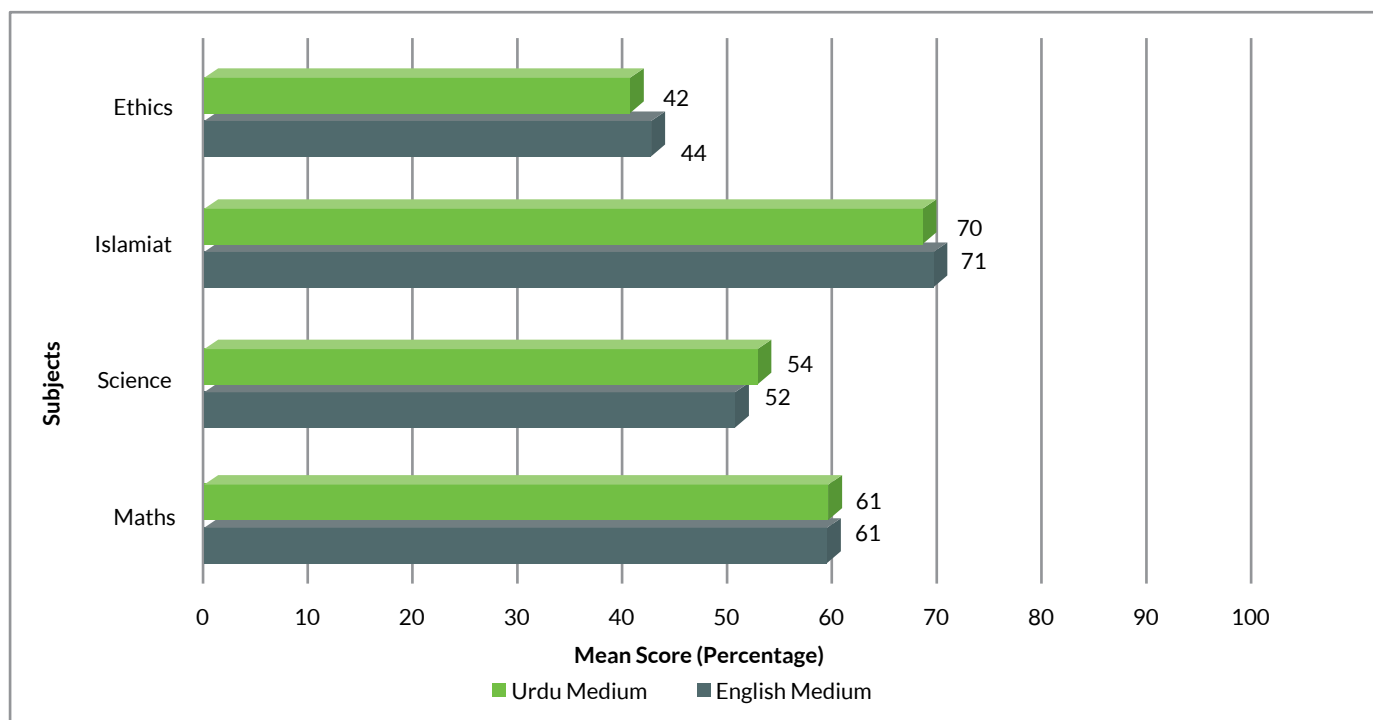
Overall Performance of Students by Type of Students (Grade 5)



Graph 11: Overall performance of students by type of students (Grade 5)

Graph 11 indicates the differences in overall performance of students in different categories of students on the basis of their registration in PEC exams 2019. It can be observed that students from public schools showed good result as compared to the private sector and achieved a mean score of 320 out of 500.

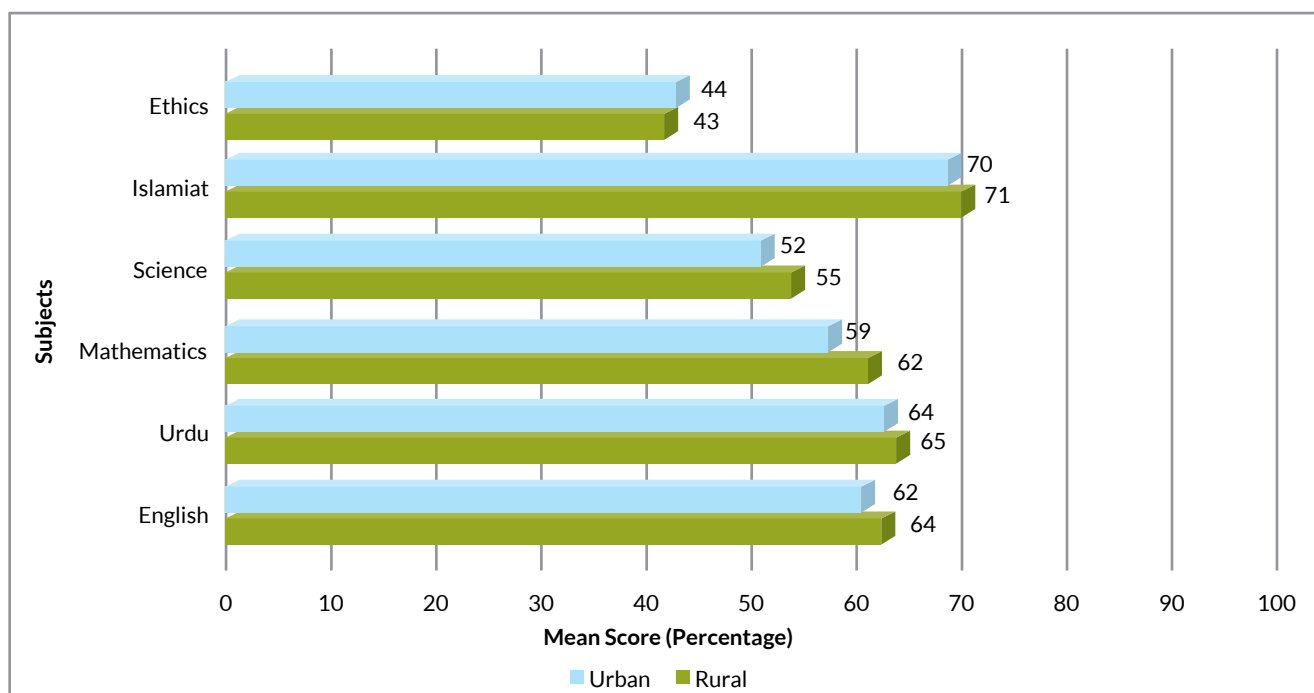
Performance of Students by Language of Exams (Grade-5)



Graph 12: Performance of students by language of exams (Grade 5)

The performance of students in bilingual exams of grade 5 is shown in Graph 12. It is shown that in the subjects of Islamiat and Ethics students from English medium scored slightly better mean score than the students of Urdu medium schools. In the subject of Science students from Urdu medium schools scored 54% mean score as compared to the students from English medium schools (mean score=52%). The students from both medium could score equally in the subject of Mathematics i.e. 61%.

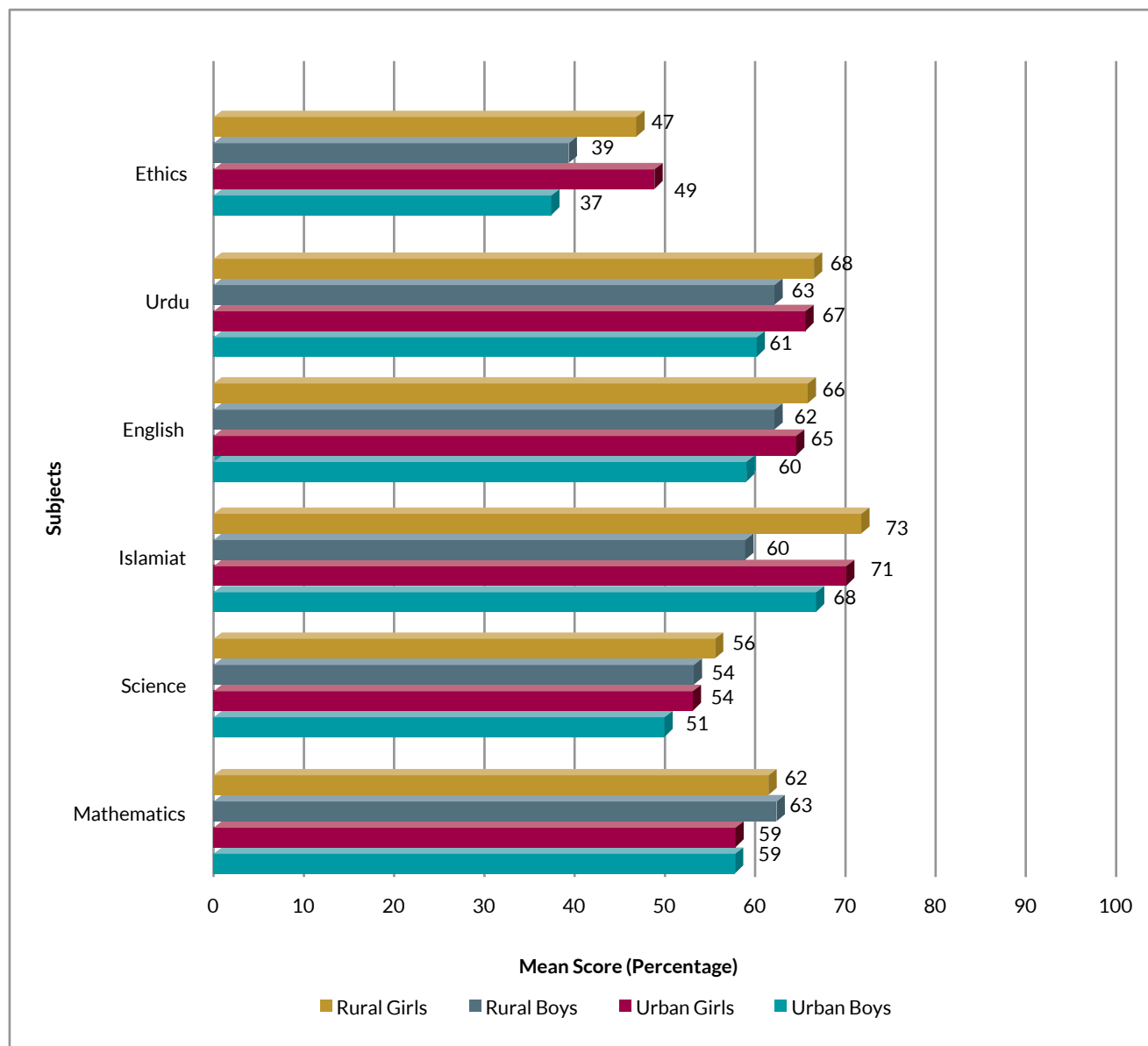
Subject Wise Performance of Students by Location (Grade-5)



Graph 13: Subject wise performance of students by location (Grade 5)

Graph 13 represents the subject wise performance of the students by location in grade 5. It can be observed that students from rural areas performed better as compared to students from urban areas in all subjects except in the subject of Ethics.

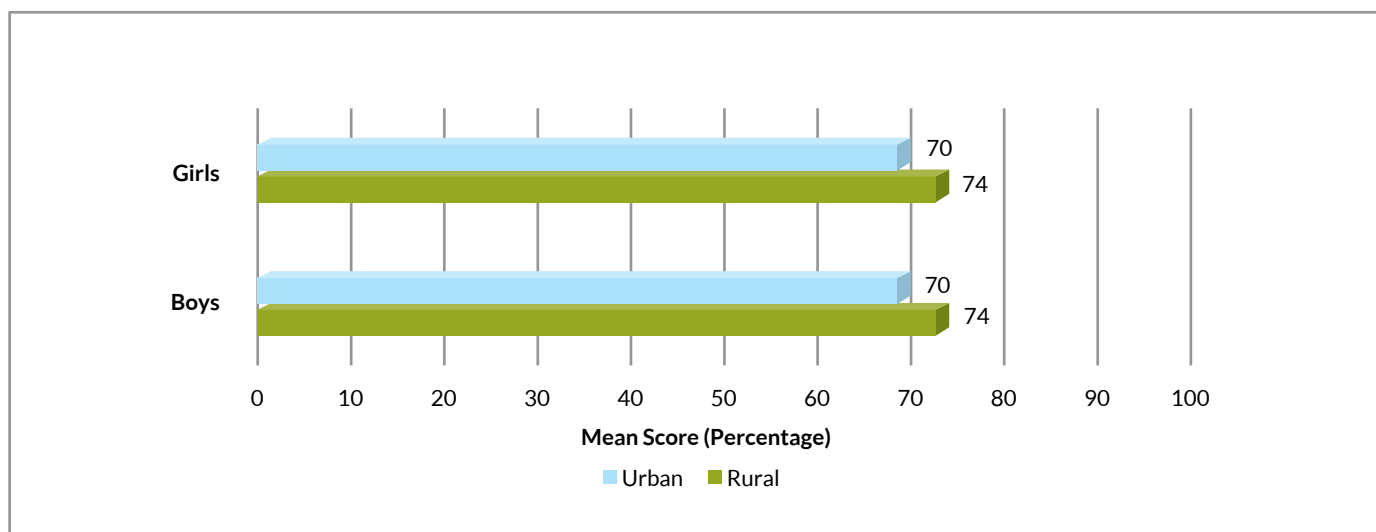
Subject Wise performance of Students by Location and Gender (Grade-5)



Graph 14: Subject wise performance of students by location and gender (Grade 5)

Graph 14 is a graphical representation of the mean scores of the students at grade 5, analyzed on the basis of location and gender in all six subjects. The result indicates that the mean score of students was found to be fluctuated quite substantially across different subjects. The result indicates that in case of boys, mean score of rural students was a slightly higher than urban boys' mean score in all the subjects except Islamiat where the boys from urban areas achieved better mean score than their counterparts from rural areas. It can be observed from the graph that the rural girls performed better and achieved higher mean score in all the subjects except Ethics. Generally students from rural areas scored better mean score than that of the urban areas. Gender-wise, it was found that girls performed significantly better than boys in all the subjects except Mathematics where mean score of urban boys and girls was same in urban areas i.e. 59%. In case of rural areas, boys were ahead in performance from girls.

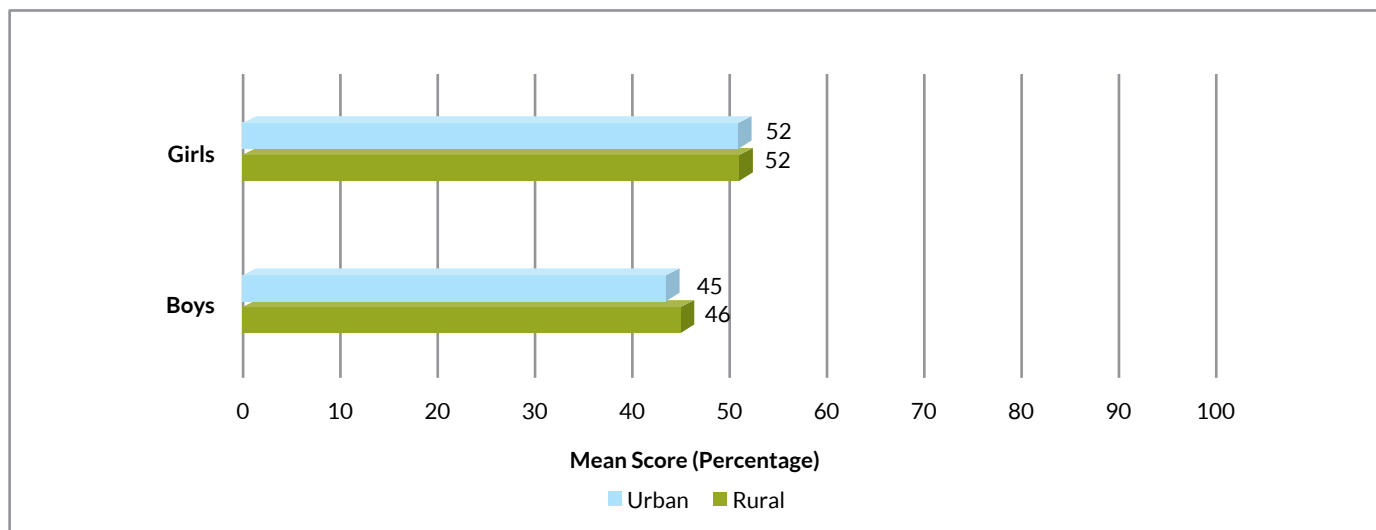
Gender and Location Wise Performance of Students in MCQs (Grade-5)



Graph 15: Gender and location wise performance of students in MCQs (Grade 5)

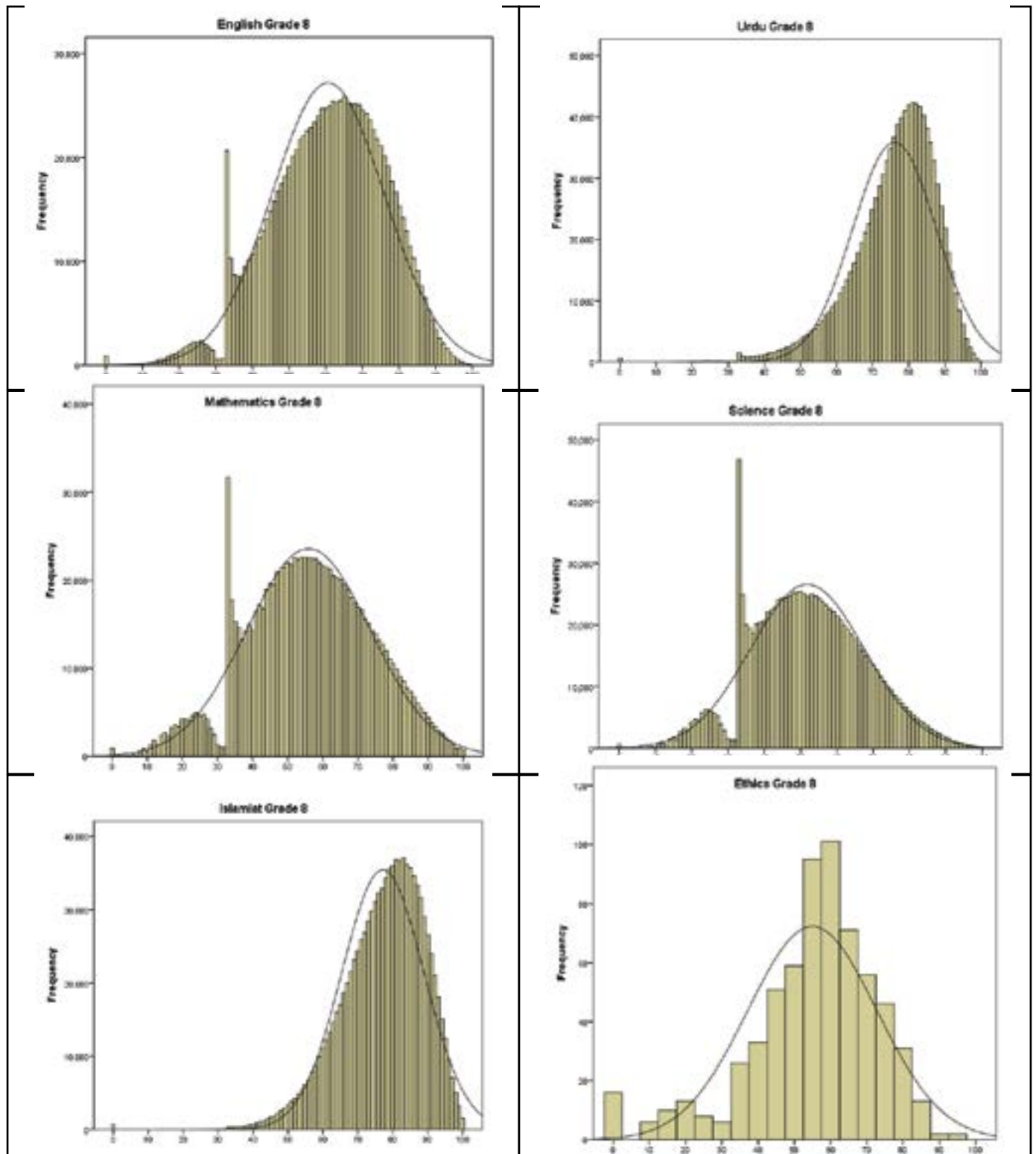
Graph 15 shows gender and location wise performance of the students in MCQs portion at grade 5 which clearly reflects that both boys and girls from rural areas performed better than that of the urban areas.

Gender and Location Wise Performance of Students in CRQs (Grade-5)



Graph 16: Gender and location wise performance of students in CRQs (Grade 5)

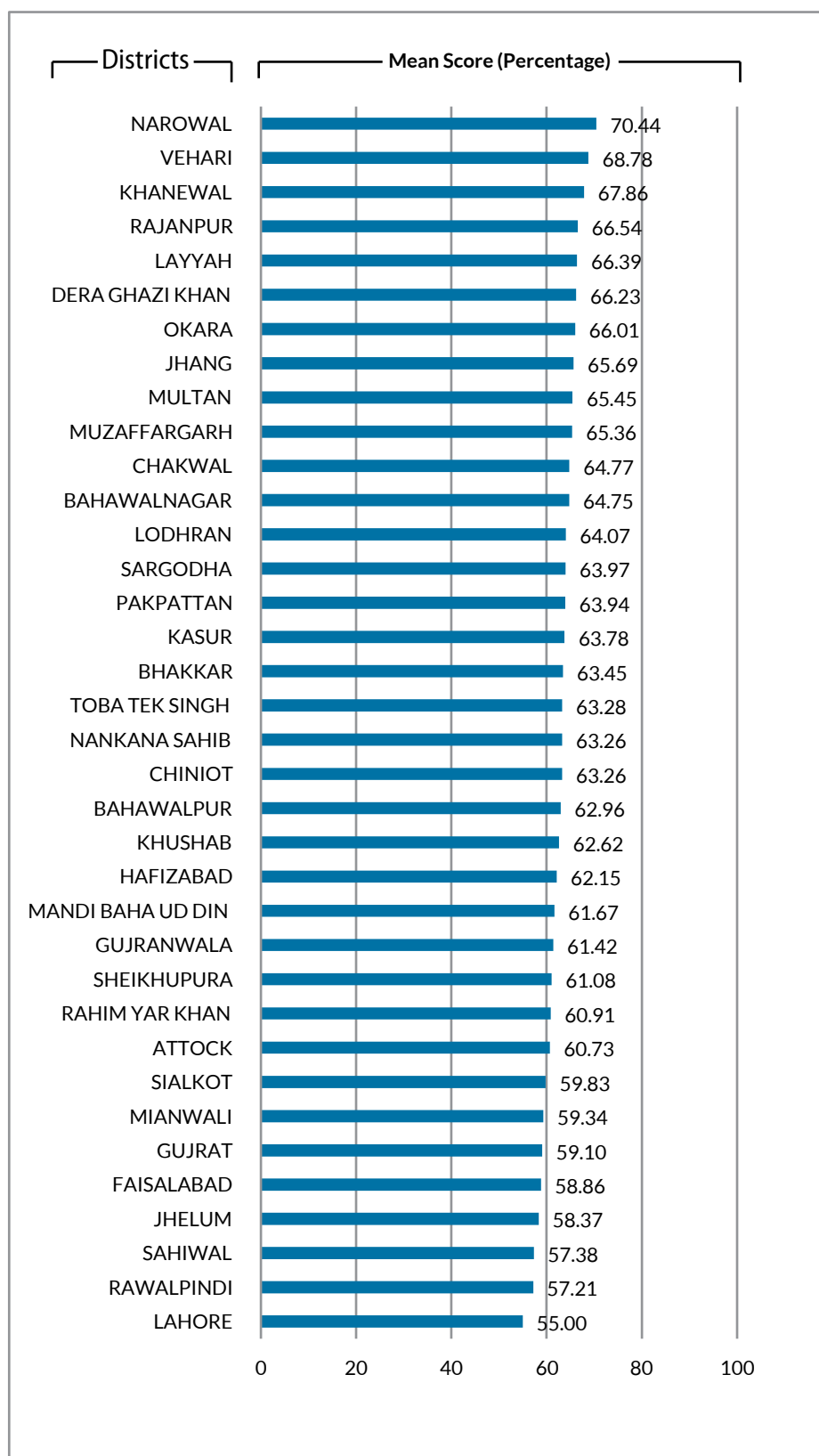
Graph 16 shows performance of students in CRQs portion at grade 5 level based on gender and location. As displayed above, the mean score of girls was considerably higher than boys for both urban and rural areas. The girls from both rural and urban areas got mean scores of 52% while boys from rural areas got 46% mean score and 45% mean score in urban areas.



Graph 17: Population based distribution curves (Grade 5)

The distribution curves of all the six subjects, given above, display the analysis of students' performance on the basis of population at Grade 5 level. It can be observed that, the distribution curves representing the subjects of English, Urdu, Mathematics and Islamiyat are left skewed. It shows that the performance of students in these subjects is comparatively better. It can also be noted that, in case of Urdu and Islamiyat, the central peak of the distribution curves is sharper, high and left skewed which illustrates that most of the students got high marks in these subjects. Furthermore, in the case of Science and Ethics, the distribution curves are normally distributed and have a bell shape which indicates the average performance of the students in these subjects.

Overall District Wise Performance of Students (Grade-5)

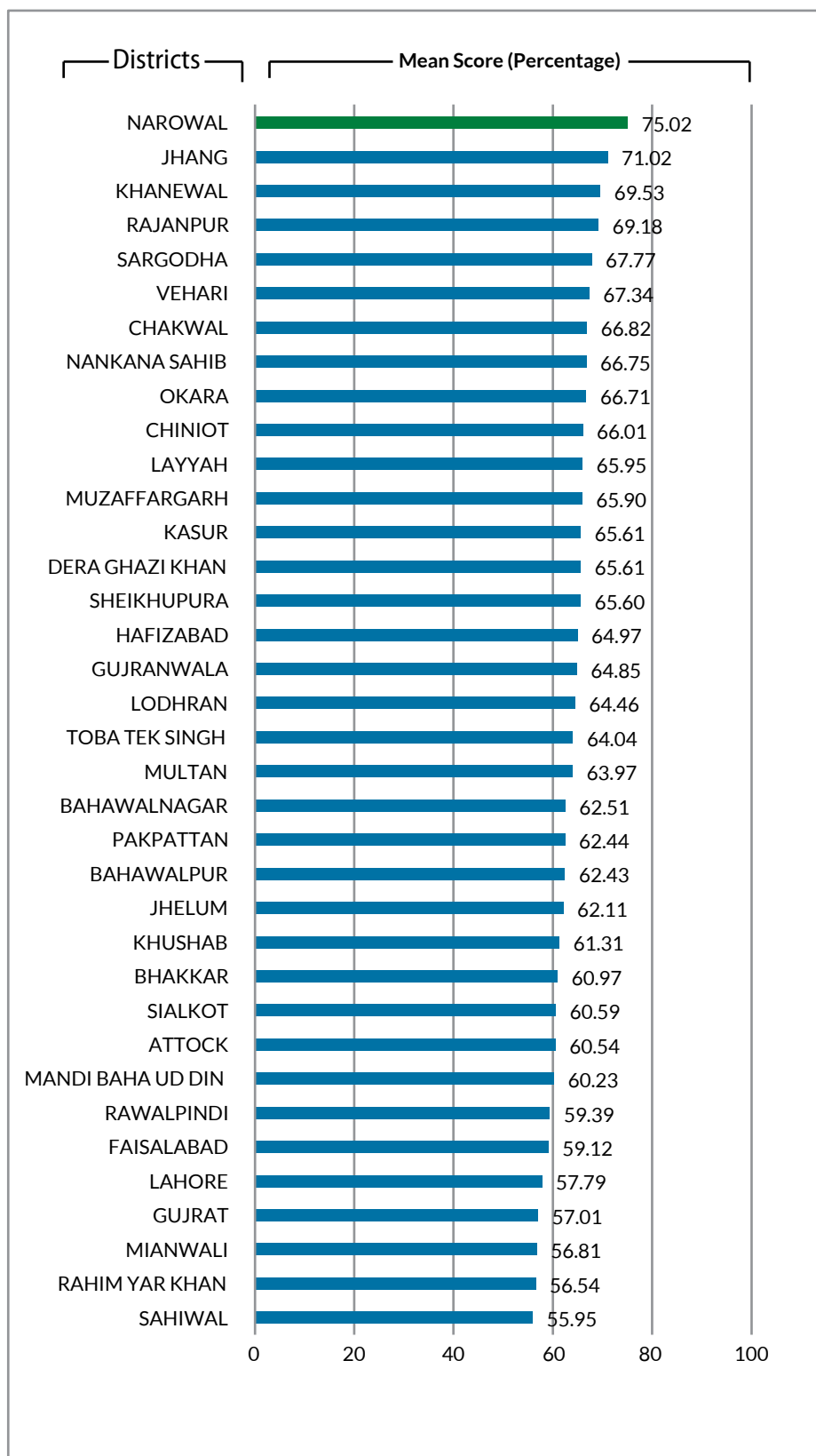


Graph 18 shows overall performance of students in grade 5 at district level. The result indicates that the students belonging to District Narowal performed at a higher level resultantly District Narowal got first position in all of 36 Districts in Punjab with a mean score of 70.44%, followed by Vehari, Khanewal, Rajanpur and Layyah with the mean scores of 68.78%, 67.86%, 66.54% and 66.39% respectively. Lahore with mean score equals to 55 % was placed at the lowest position in this regard.

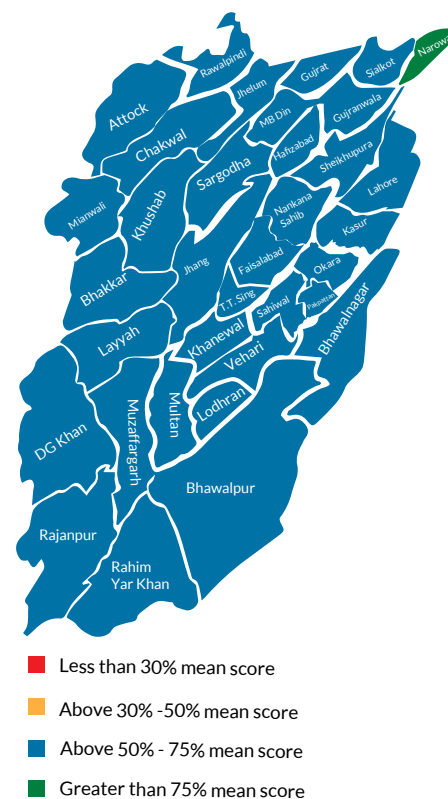


Graph 18: Overall district wise performance of Students (Grade 5)

District Wise Performance of Students in English (Grade-5)

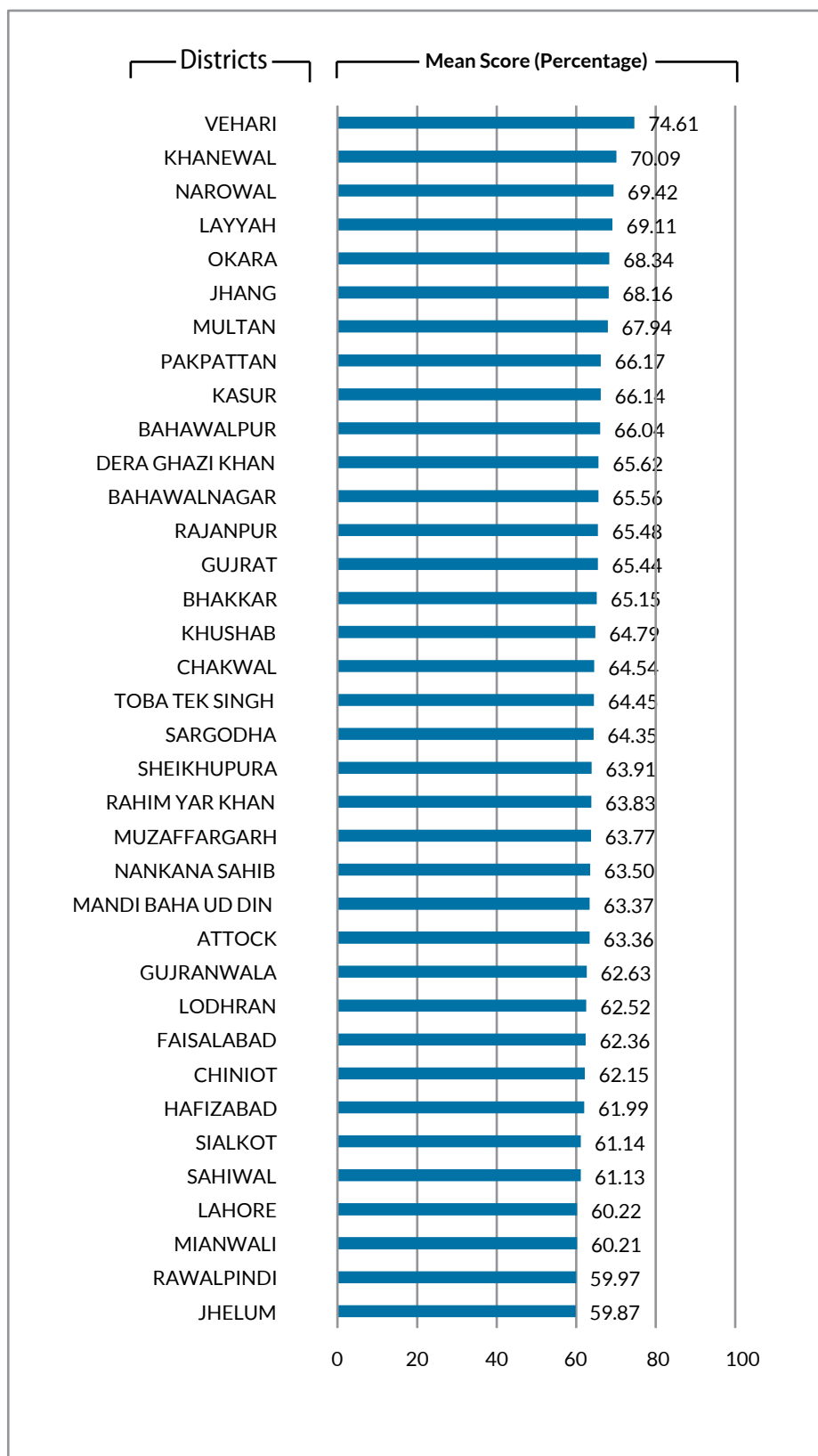


Comparative analysis regarding performance of students in English at grade 5 is shown in Graph 19. It can be seen that District Narowal outperformed the other districts and achieved the highest mean score in English i.e. 75.02% while District Sahiwal with 55.95% mean score was found to be the lowest performing district in English.



Graph 19: District wise performance of students in English (Grade 5)

District Wise Performance of students in Urdu (Grade-5)

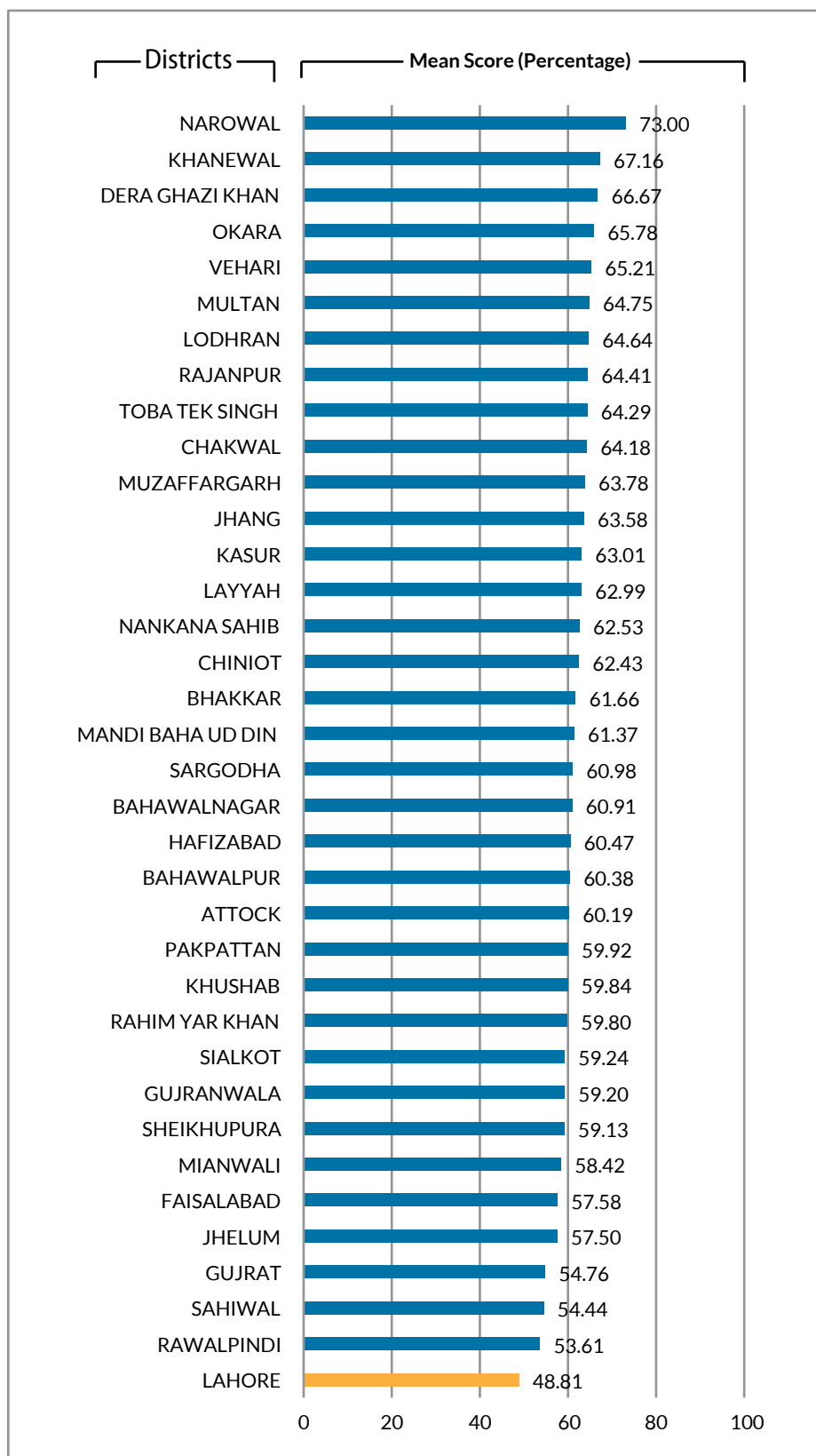


Graph 20 shows district wise performances of students at grade 5 in Urdu. Vehari showed good result in the subject of Urdu and was placed at top position among 36 districts with a mean score of 74.61% followed by Khanewal and Narowal with 70.09% and 69.42% mean score. The districts Mianwali, Rawalpindi and Jhelum were the three low performing districts in Urdu with mean score 60.21%, 59.97% and 59.87% respectively.

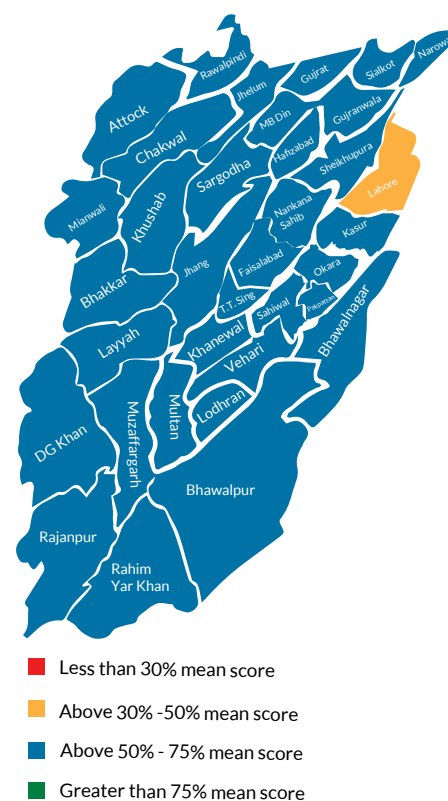


Graph 20: District wise performance of students in Urdu (Grade 5)

Subject Wise Performance of Student in Mathematics (Grade-5)

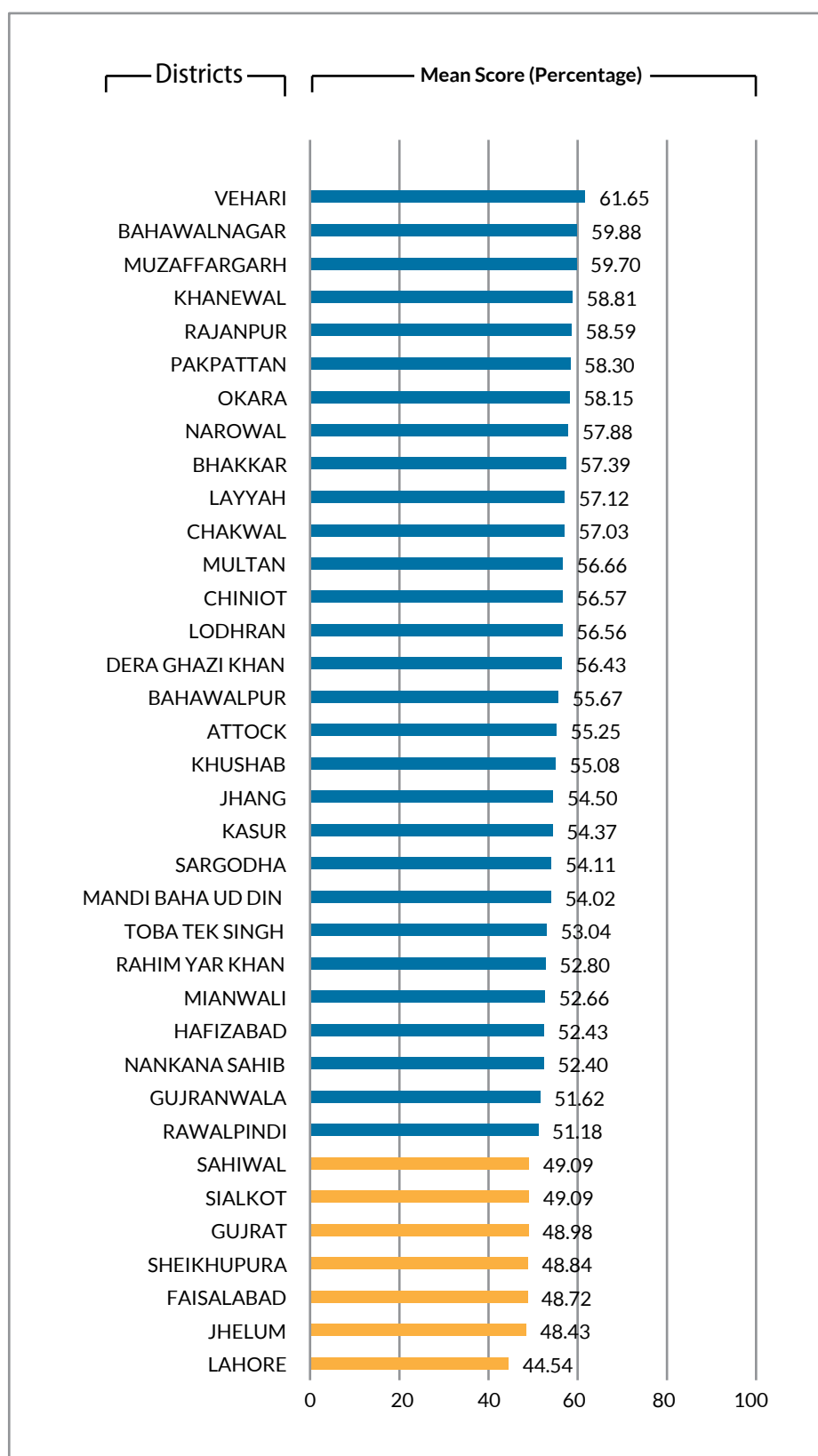


The overall district wise performance of the students is displayed in the Graph 21. Narowal was found to be the highest performing district with 73% mean score in the subject of Mathematics at grade 5 level. The low performing districts in the subject of Mathematics were Jhelum, Gujrat, Sahiwal, Rawalpindi, and Lahore with the mean scores of 57.50%, 54.76%, 54.44%, 53.61% and 48.81% respectively. Lahore was placed at the lowest position in this regard.

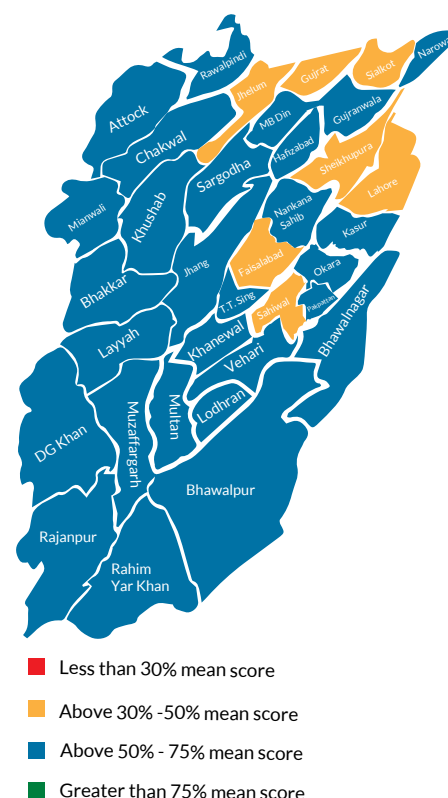


Graph 21: Subject wise performance of student in Mathematics (Grade 5)

Subject Wise Performance of Students in Science (Grade-5)

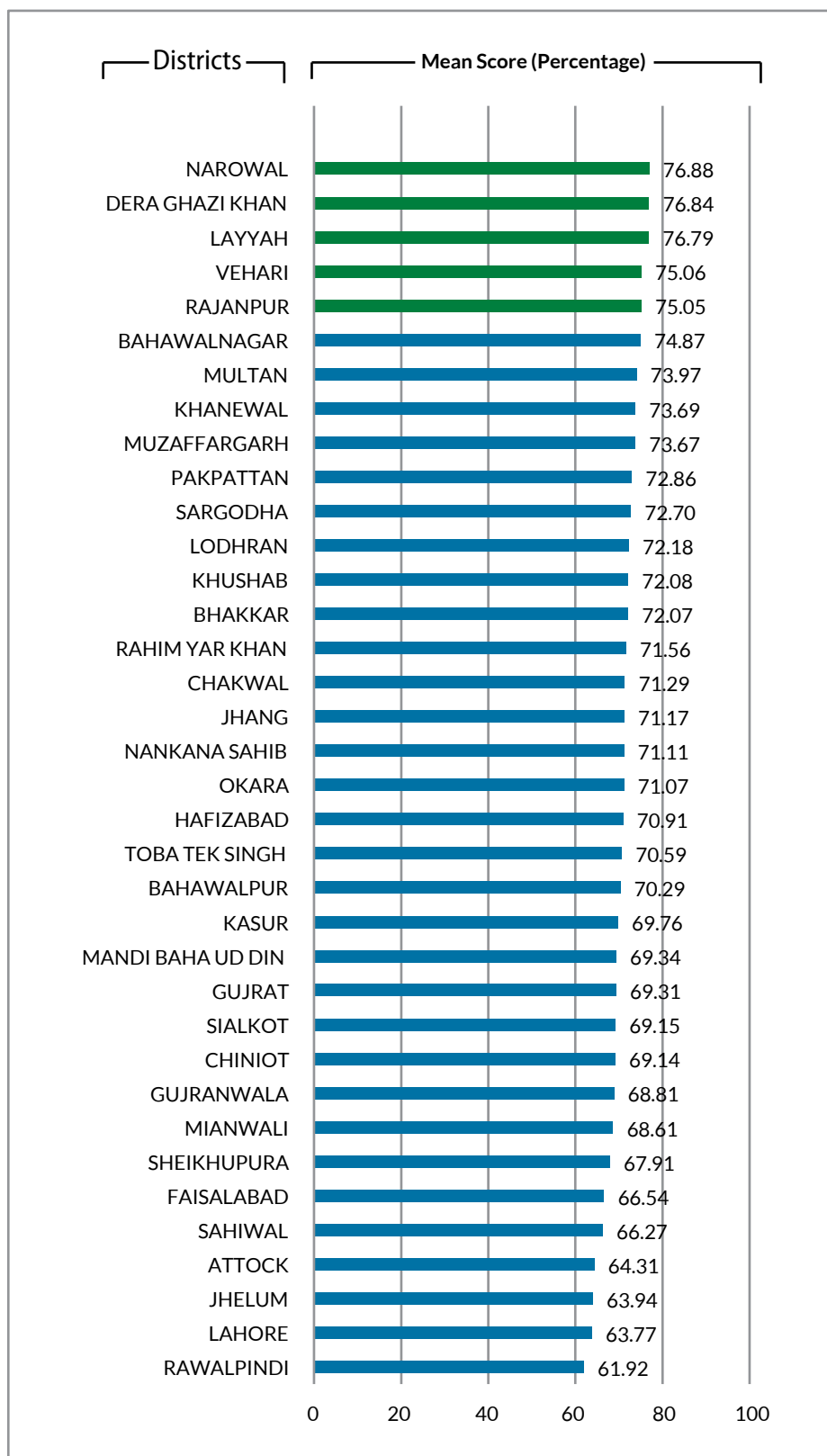


In Science; Vehari, Bahawalnagar and Muzaffargarh were the top performing districts with the mean score of 61.65%, 59.88% and 59.70% while the low performing districts naming Faisalabad, Jhelum and Lahore, scored the mean score of 48.72%, 48.43% and 44.54% respectively. Mean scores of all districts in the subject of Science ranged between 61.65% and 44.54%.

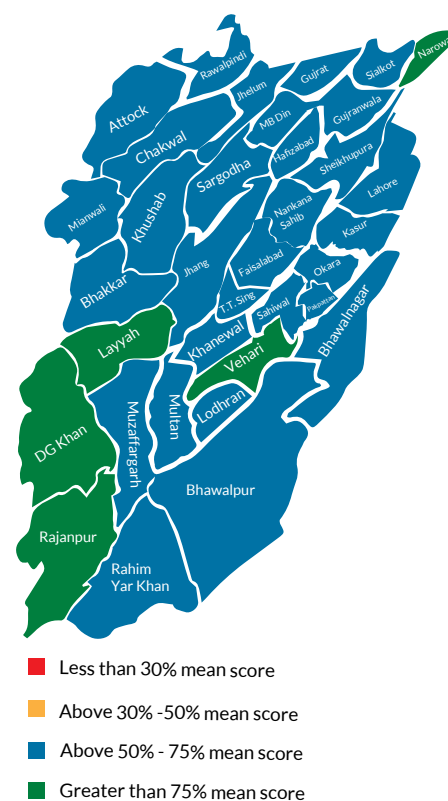


Graph 22: Subject wise performance of students in Science (Grade 5)

District Wise Performance of Students in Islamiat (Grade-5)



Graph 23 illustrates the performance of the students in Islamiat with regard to 36 districts of Punjab in PEC Exams 2019. The analysis shows that the students belonging to Narowal performed the best among all the districts and scored the highest mean score which was 76.88% while Rawalpindi was observed to be at the lowest position by obtaining the mean score of 61.92%. It is important to note that the mean score of Islamiat was significantly higher than other subjects with mean score ranged from 61.92% to 76.88%.



Graph 23: District wise performance of students in Islamiat (Grade 5)

The performance of grade 8 students in PEC exams 2019 is given in the coming section.

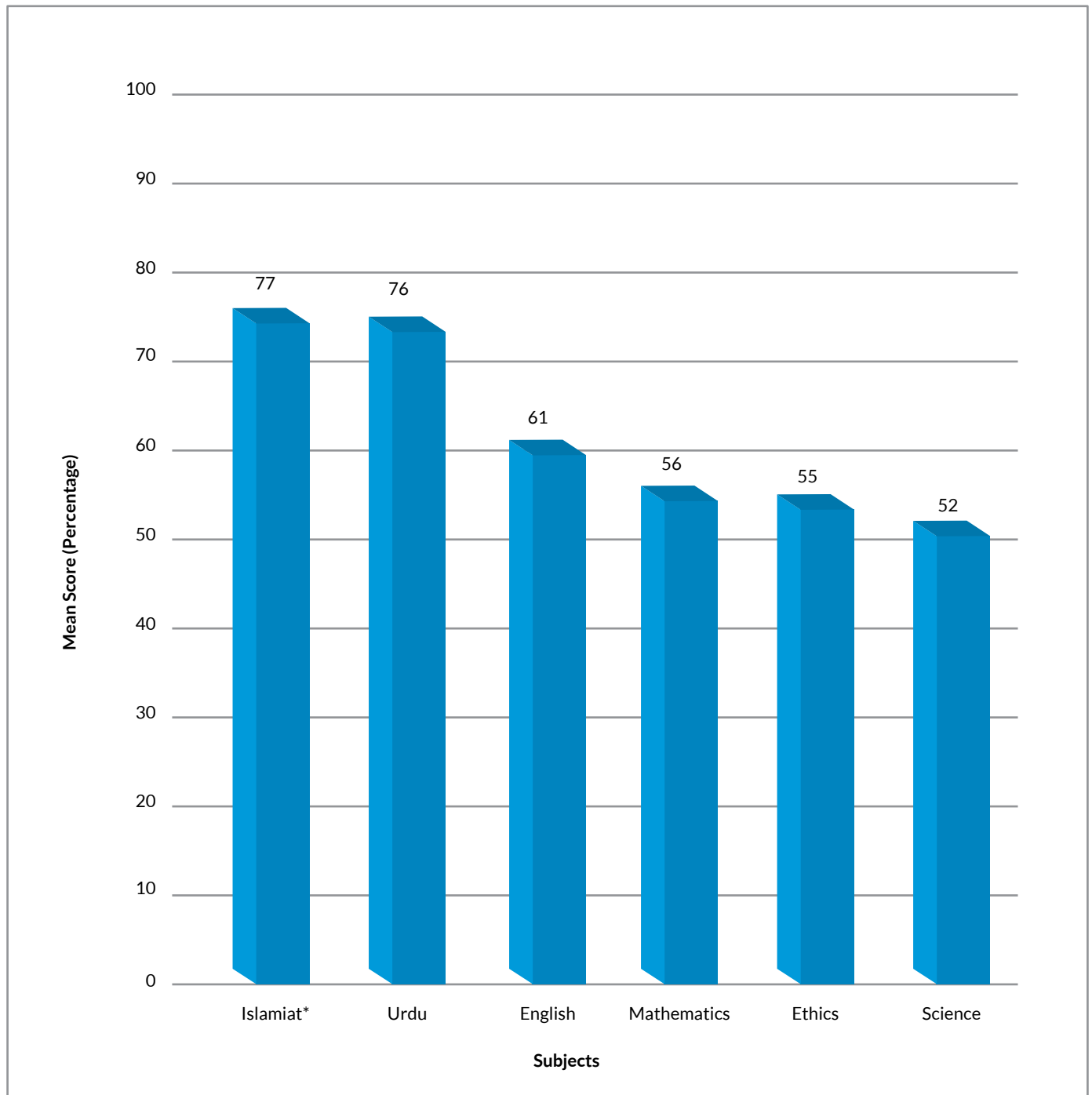
Performance of Students in Grade 8

Grade 8 Key Findings

- The trend of subject wise students achievement score (%) is;
 - o Islamiat, Urdu, English, Mathematics, Ethics, Science with 77%, 76%, 61%, 56%, 55% and 52% mean scores respectively.
- The trend of subject wise performance on MCQs is;
 - o Islamiat, Urdu, English, Mathematics, Science, and Ethics.
- The trend of subject wise performance on CRQs is;
 - o Urdu, Islamiat, Ethics, English, Mathematics, and Science.
- Overall students performed better on MCQs (73% mean score) than CRQs (51% mean score) portion.
- Overall girls scored better mean score (%) than boys in all subjects except Mathematics where, both (girls and boys) scored equal mean percentage.
- Trend of overall performance of students by type of their registration is;
 - o Students from private schools, Students from Public schools, and Private registered Students.
- Overall subject wise, students from rural areas performed better than that of the urban areas in all subject.
- Overall, the districts Vehari, Khanewal, Narowal, Layyah and Rajanpur are five top performing districts in grade 8 PEC exams 2019.

*Marks for Nazra Quran portion (max=40%) are included in the overall mean percentage of students.

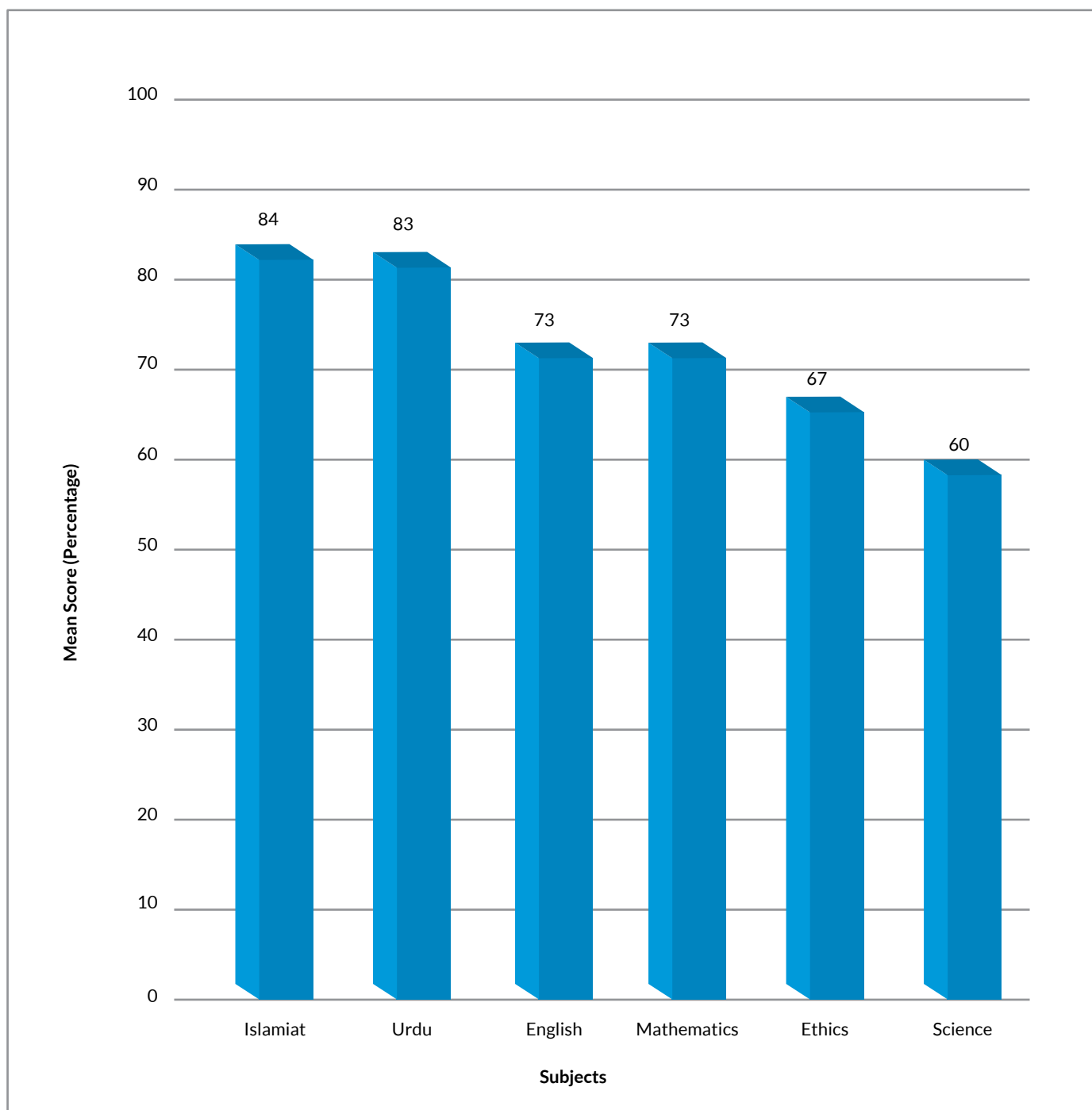
Subject Wise Performance of Students (Grade-8)



Graph 24: Subject wise mean achievement score (%) of students (Grade 8)

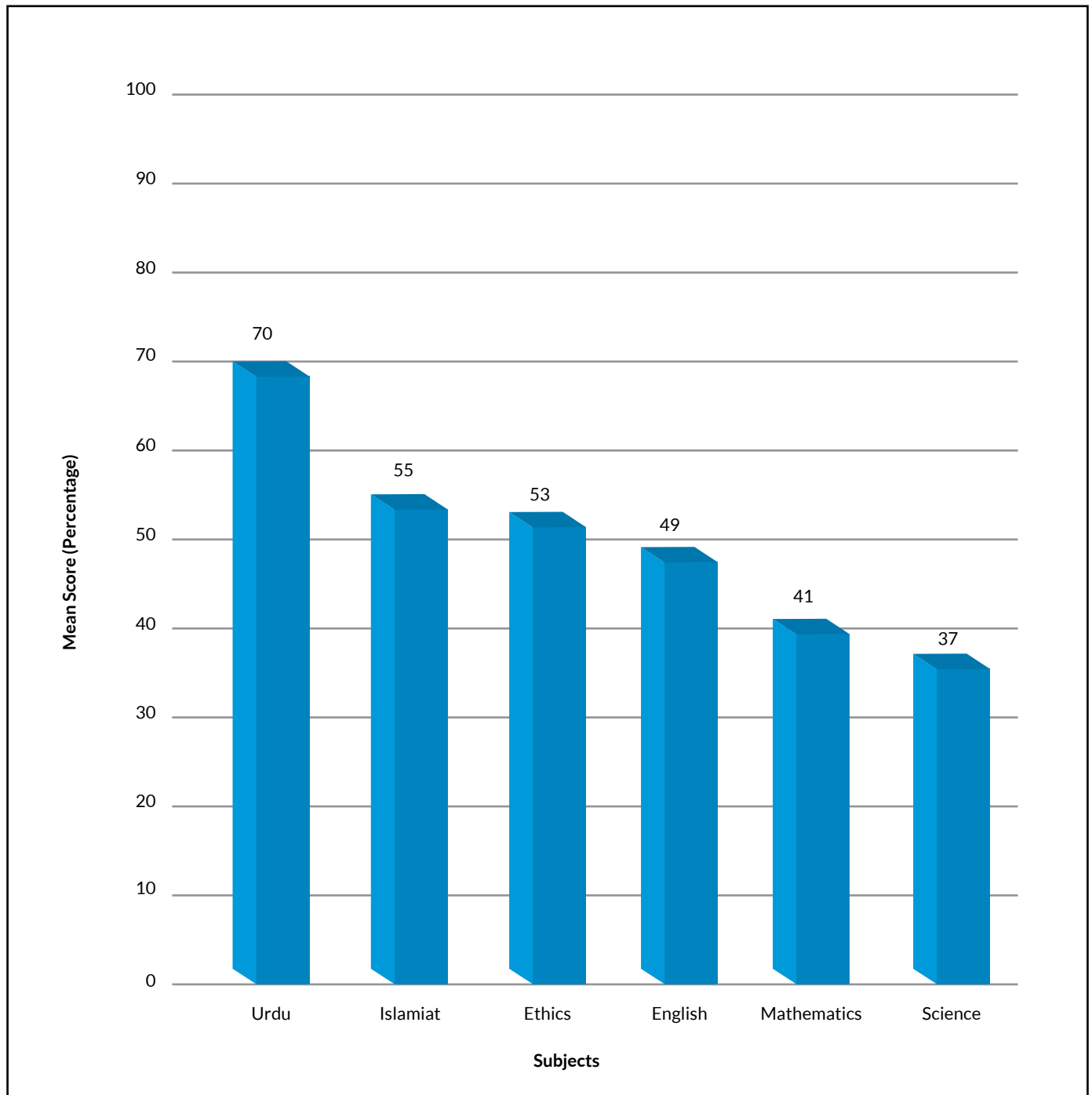
Graph 24 displays the graphical presentation of the overall performance of students in grade 8. The graph indicates the differences in mean scores of students in different subjects. The performance of students in the subject of Islamiyat was found to be the highest with a mean score of 77%, followed by Urdu, English, Mathematics, Ethics and Science having the mean score of 76%, 61%, 56%, 55% and 52% respectively. Marks for Nazra Quran portion are also included in total marks of Islamiyat. However, a considerable difference was found among them.

*Marks for Nazra Quran portion (40%) are included in the overall mean percentage of students.

Subject Wise Performance of Students in MCQs (Grade-8)**Graph 25: Subject wise mean achievement score (%) of students in MCQs (Grade 8)**

Graph 25 reveals information about the subject wise mean score performance of students in MCQs portion at grade 8 level. It is obvious from the graph that, the students achieved the highest mean score in "Islamiat" i.e. 84%, while the lowest mean score was found to be 60% in the subject of Ethics. Students scored 83 % mean score in Urdu, 73% mean score in the subjects of English and Mathematics; and 67% mean score in Science. It was observed that students scored not less than 60% mean score in MCQs portion of any subject.

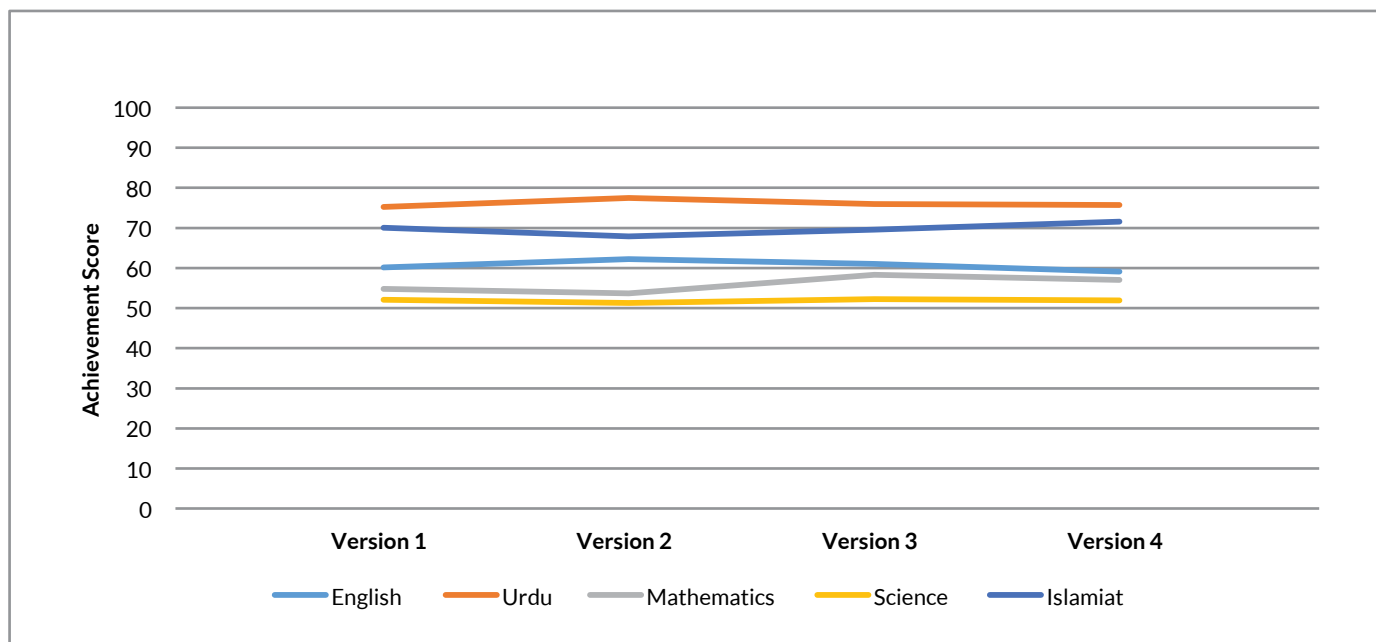
Subject Wise Performance of Students in CRQs (Grade-8)



Graph 26: Subject wise mean achievement score (%) of students in CRQs (Grade 8)

Graph 26 shows the subject wise mean achievement score of students in CRQs portion of all subjects in grade 8. Graph indicates that the students did better in the subject of Urdu and got considerably higher mean score i.e. 70% followed by Islamiyat and Ethics with mean score 55% and 53%. In the subjects of English, Mathematics and Science students could only score mean score less than 50% in CRQs portion. This signifies that students found these subjects difficult.

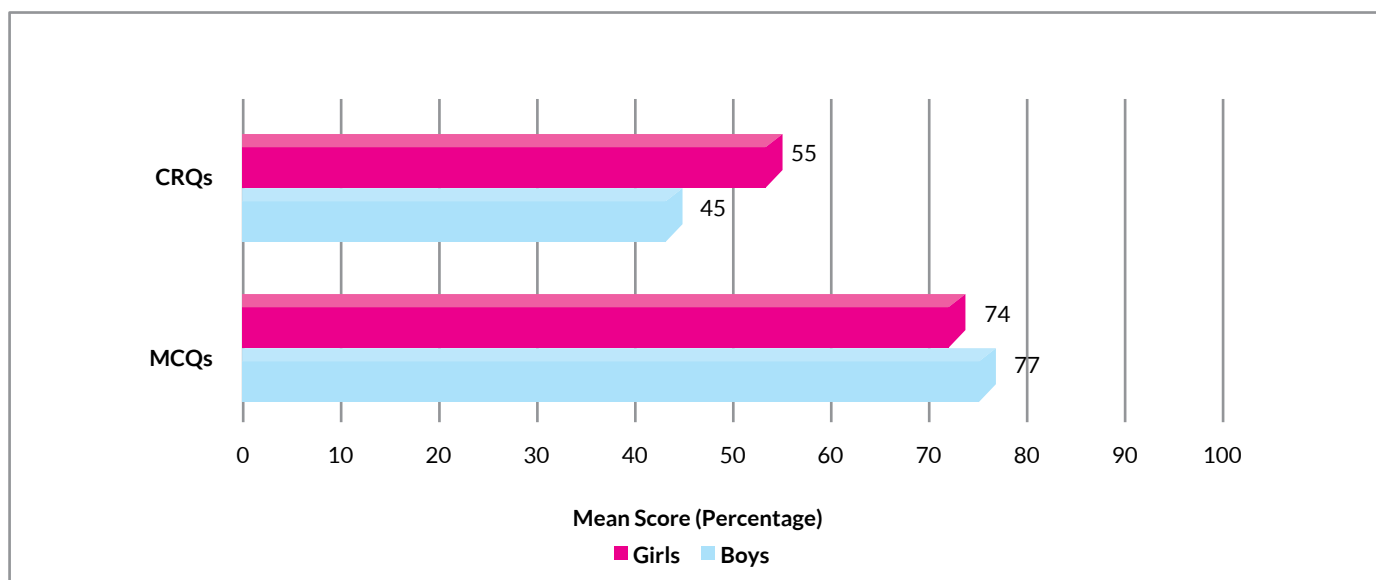
Version Wise Performance of Students in Different Subjects (Grade-8)



Graph 27: Version Wise Performance of Students in Different Subjects (Grade-8)

Graph 27 shows the version wise performance of students in grade 8. The four versions of each of the subject were prepared which were aligned on cognitive level and SLO wise. The graph above depicts the similar achievement scores in all subjects across four versions supporting the fact that all versions were of same difficulty level

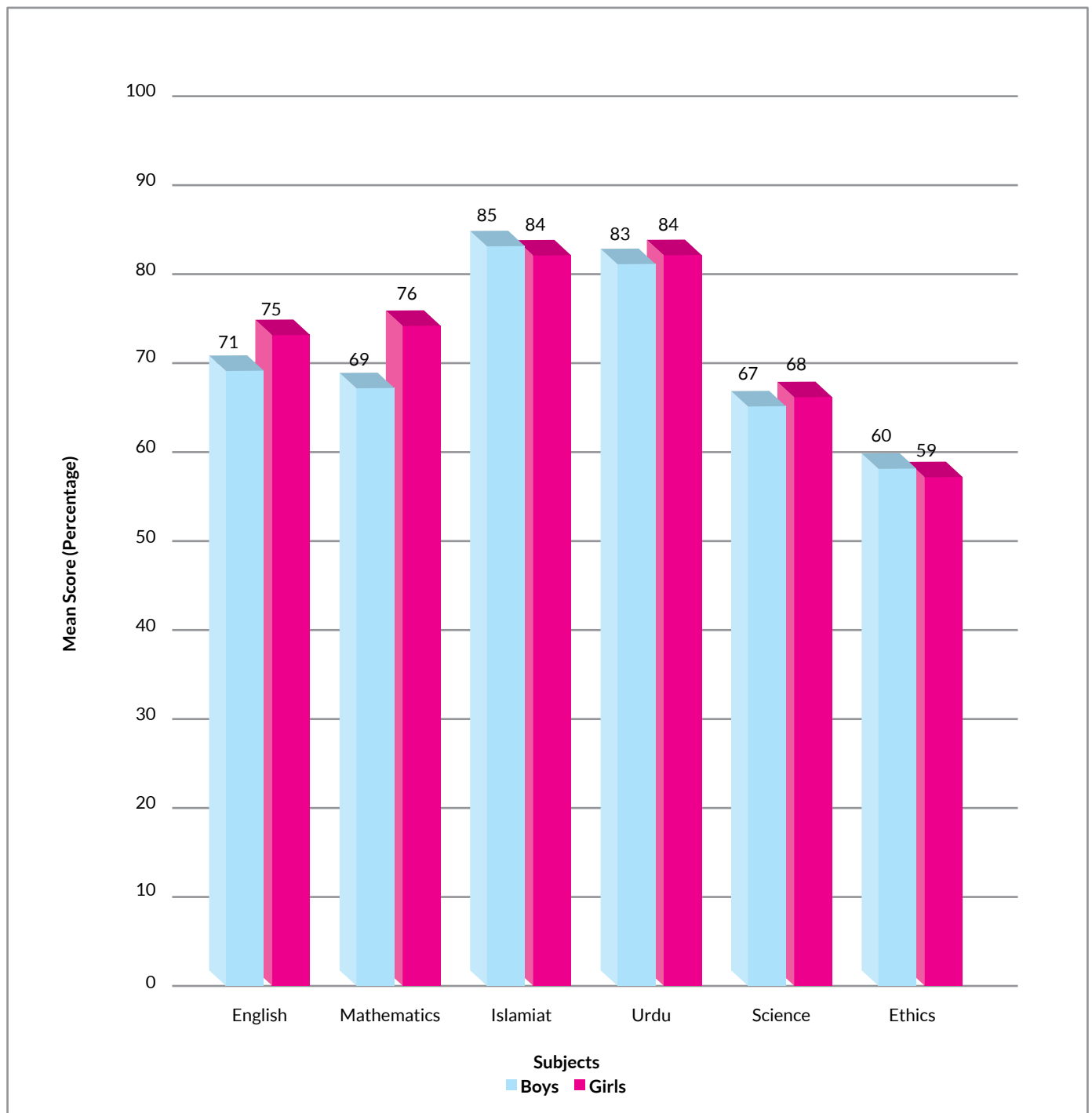
Gender Wise Performance of Students in MCQs and CRQs (Grade-8)



Graph 28: Gender-wise mean achievement score (%) of students (Grade 8)

Gender wise performance of students in MCQs and CRQs is illustrated in Graph 28. Boys performed better with mean score 77% than girls with mean score 74% on MCQs portion. However, girls performed better with mean score of 55% as compared to the boys with mean score of 45% in CRQs portion.

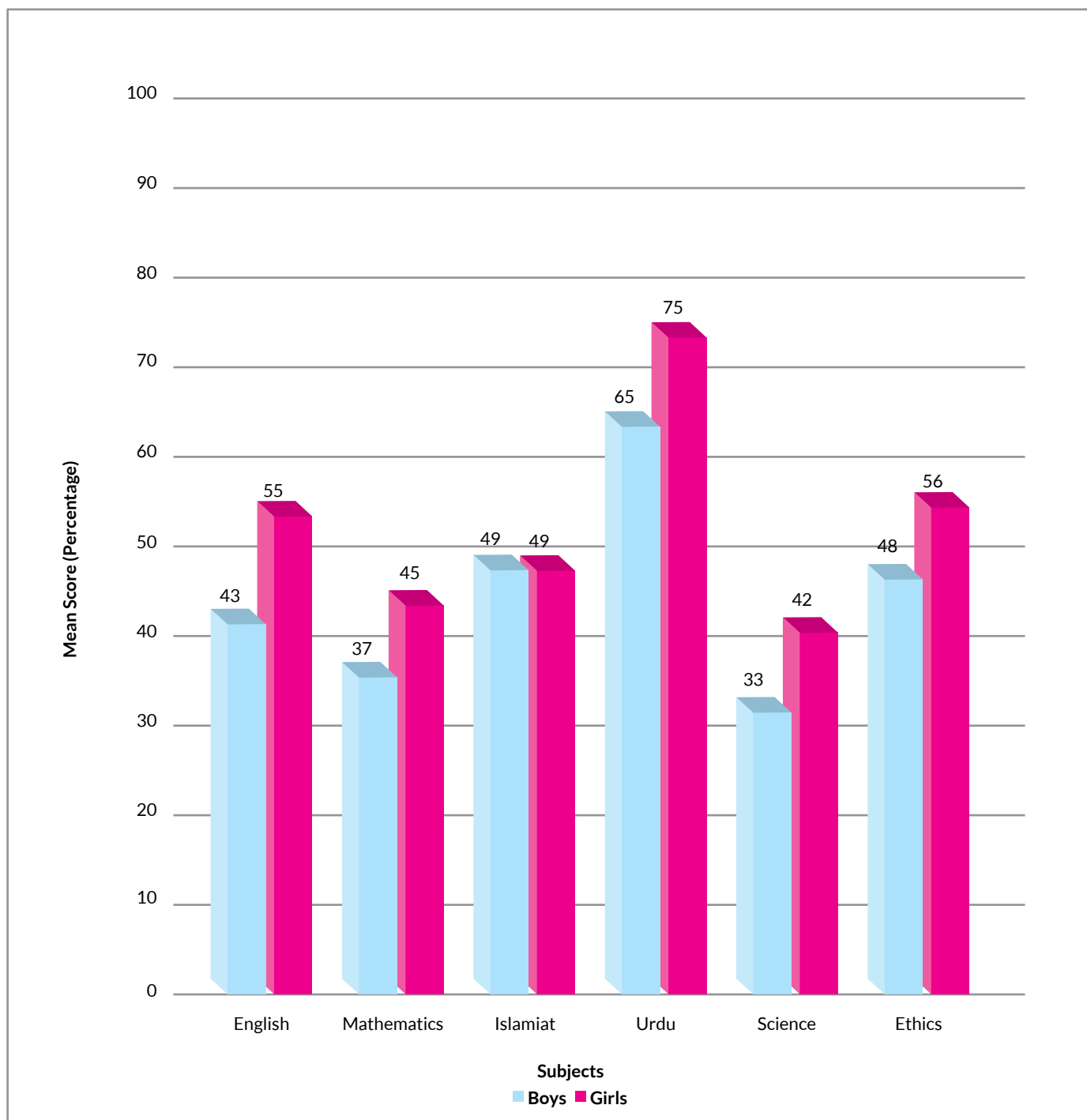
Gender Wise Performance of Students in MCQs of Different Subjects (Grade-8)



Graph 29: Subject-wise mean achievement score (%) in MCQs by gender (Grade 8)

Graph 29 shows the Gender-wise performance of students in MCQs portion among all the six subjects in grade 8. The result indicates that girls performed slightly better in the subjects of English, Urdu, Mathematics and Science with the mean scores of 75%, 84%, 76% and 68% as compared to the boys with mean scores of 71%, 83%, 69% and 67% respectively. However, boys scored better mean scores than girls in the subjects of Islamiat and Ethics.

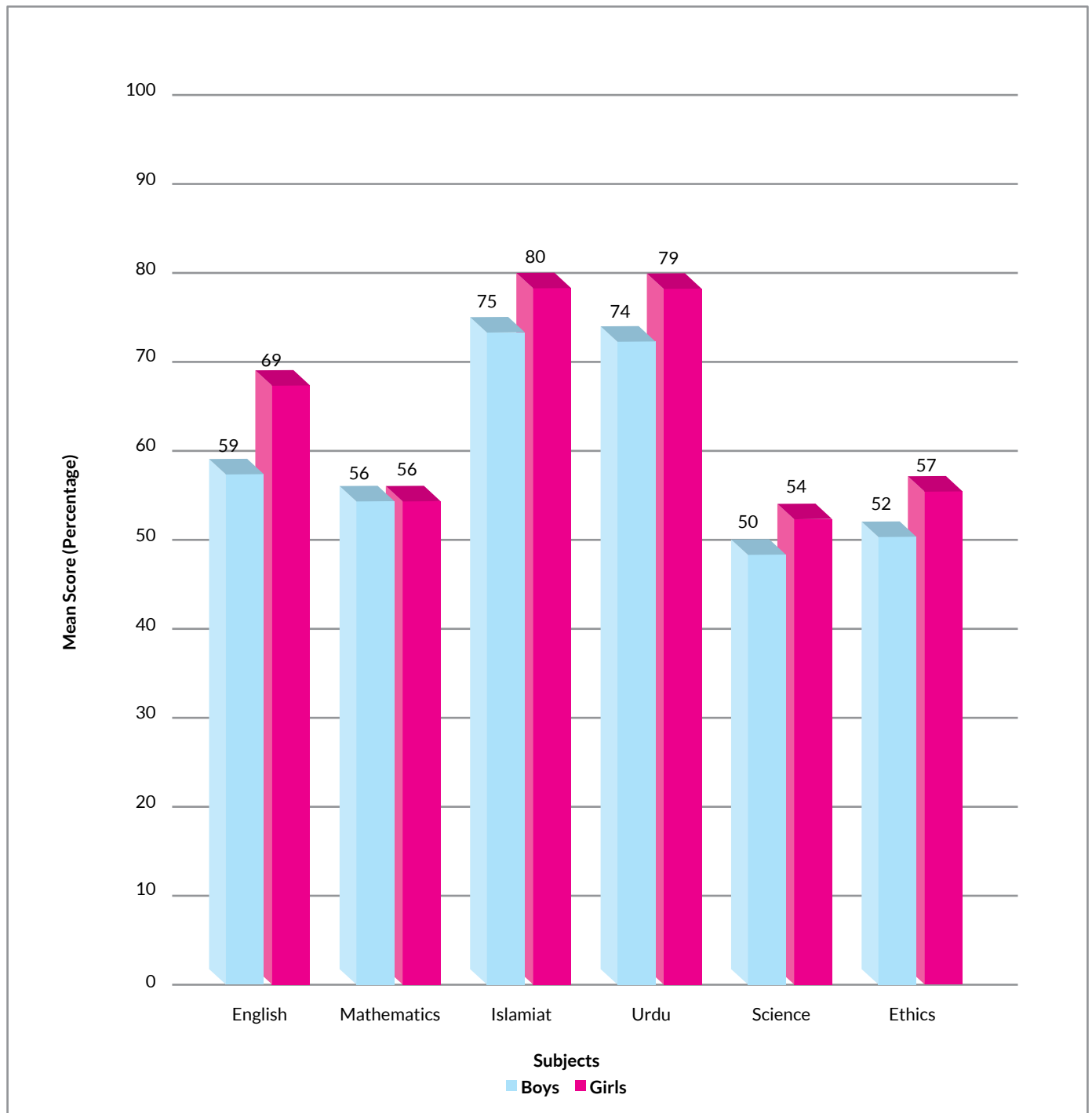
Gender Wise Performance of Students in CRQs of Different Subjects (Grade-8)



Graph 30: Gender wise performance of students in CRQs of different subjects (Grade 8)

Graph 30 presents the results of gender wise overall performance of students in CRQs portion in all subjects of grade 8 exams. Across all the subjects except Islamiyat, girls earned higher mean scores than the boys. The result showed that the gap in mean scores between boys and girls was the highest for the subject of English. In CRQs portion, both boys and girls scored 49% mean score. In the subjects of Mathematics and Science, the performance of students' in CRQs portion was not good enough as compared to other subjects.

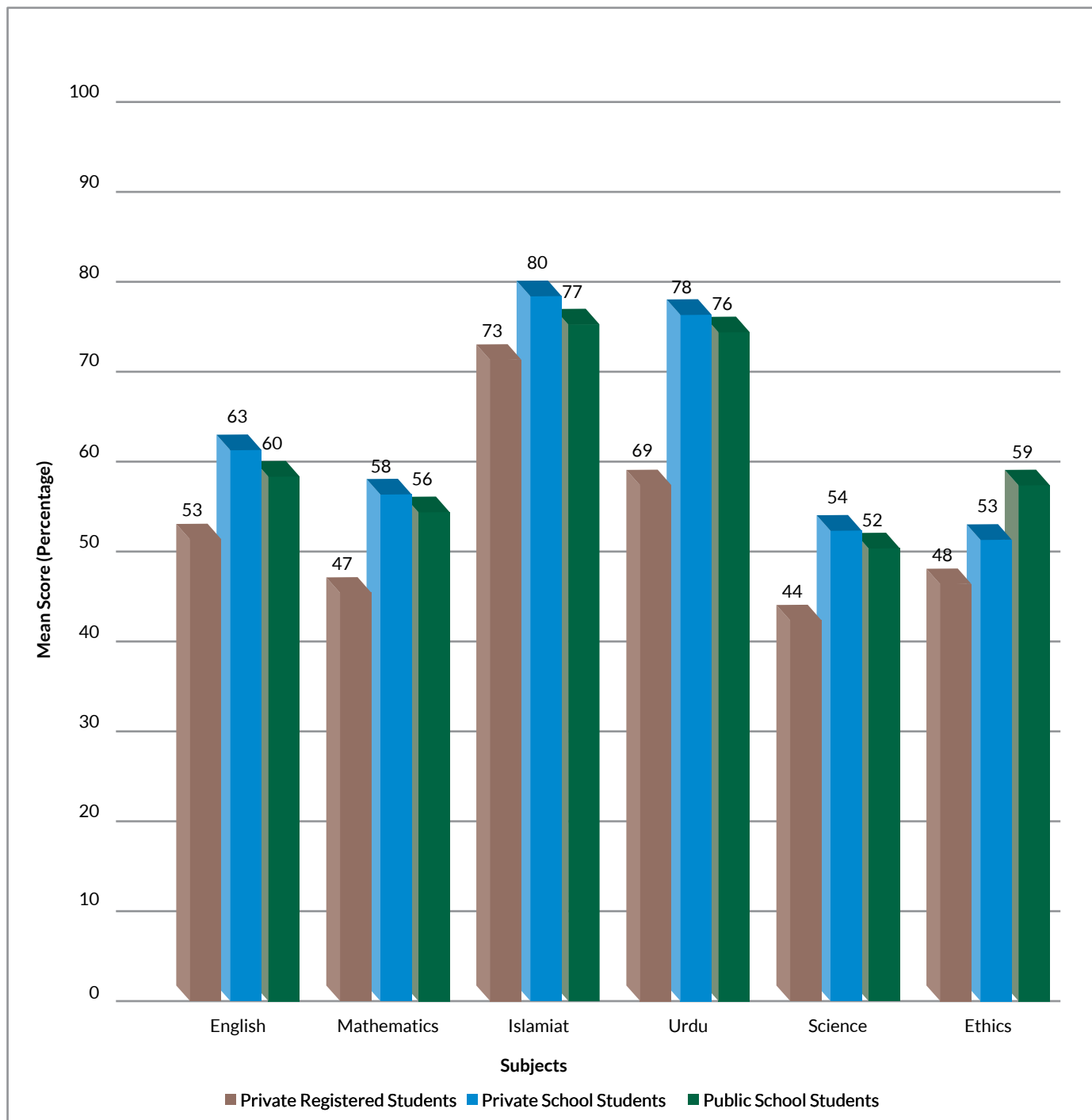
Overall Gender Wise Performance of Students in Different Subjects (Grade-8)



Graph 31: Gender wise overall performance of students in different subjects (Grade 8)

The gender wise overall performance in all the six subjects is depicted in Graph 31, it can be seen that the girls showed better performance in all subjects except Mathematics where the performance of both boys and girls was same with the mean score 56%. In the subject of mathematics both girls and boys achieved similar mean score i.e. 56%.

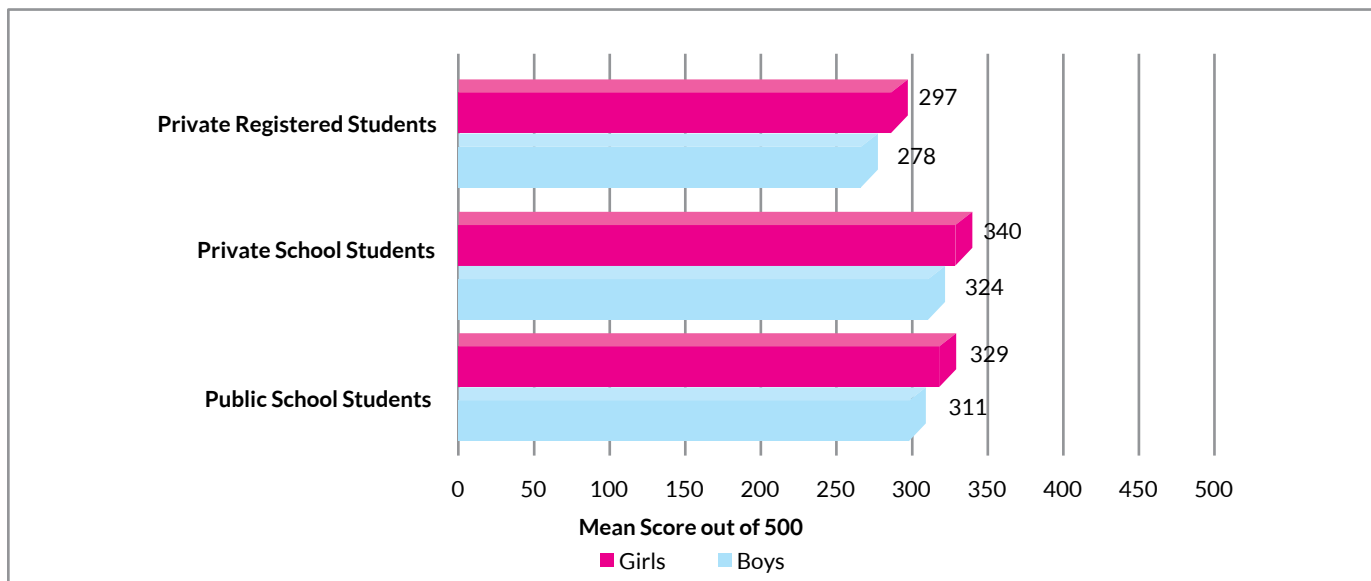
Subject Wise Performance of Students by Type of Candidate (Grade-8)



Graph 32: Subject wise performance of students by type of students (Grade 8)

It is shown in Graph 32 that students from private schools scored higher mean scores than the students from public schools and private registered students in all subjects except Ethics. The students from public schools scored highest mean percentage in the subject of Ethics than in all other subjects. The private registered students could get the lowest scores in all subjects.

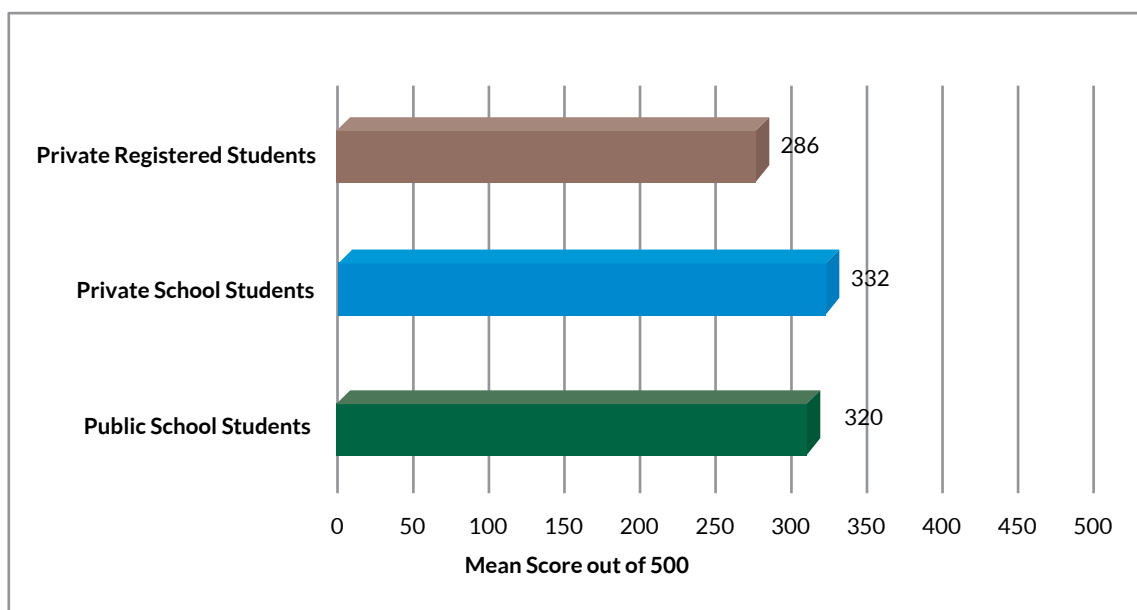
Performance of Students by Gender and Type of Students (Grade-8)



Graph 33: Gender wise performance of students by type of students (Grade 8)

Graph 33 shows the performance of boys and girls from public schools, private schools and private registered students based on their registration in PEC exams 2019. The girls from all types of students performed better than that of the boys. Girls students from private schools outperformed than all the other categories followed by the girls from public schools. Students from all categories scored more than 50% mean score.

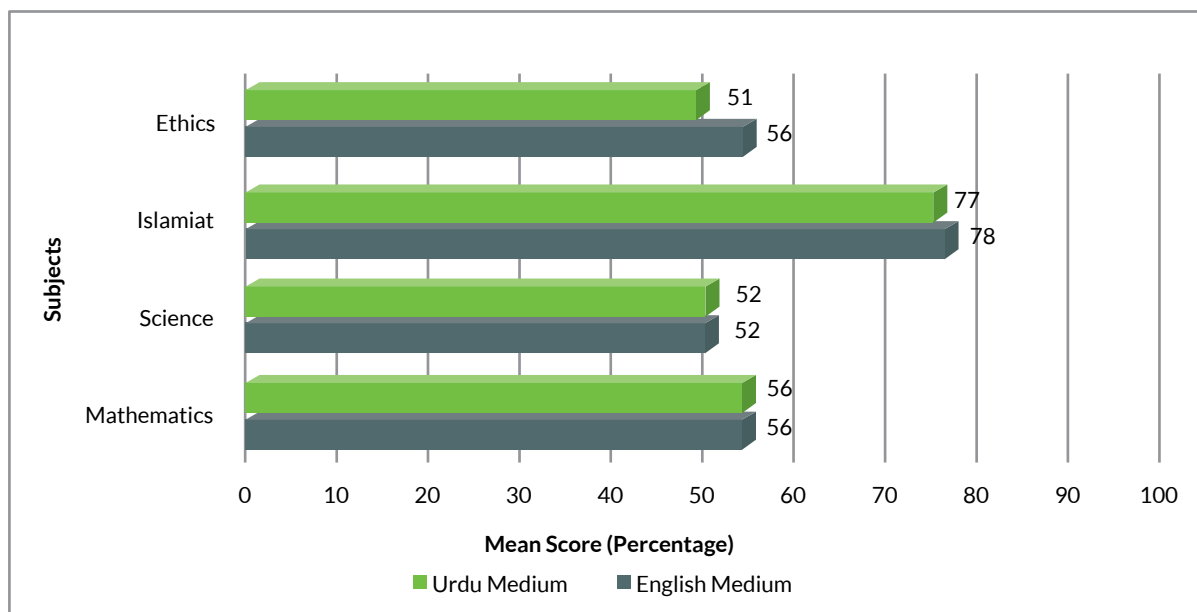
Overall Performance of Students by Type of Students' Registration (Grade-8)



Graph 34: Overall performance of students by type of students' registration (Grade 8)

The overall performance of students of grade 8 from public schools, private schools and private registered students, in PEC exams 2019, is shown in Graph 34. The students from private schools performed better with mean score 332 out of 500 as compared to the students of public schools as well as the private registered students. The students from public schools showed good result with a mean score of 320 out of 500. The mean score of the private registered students was 286, lowest among all types of students with respect to their mode of registration in PEC exams.

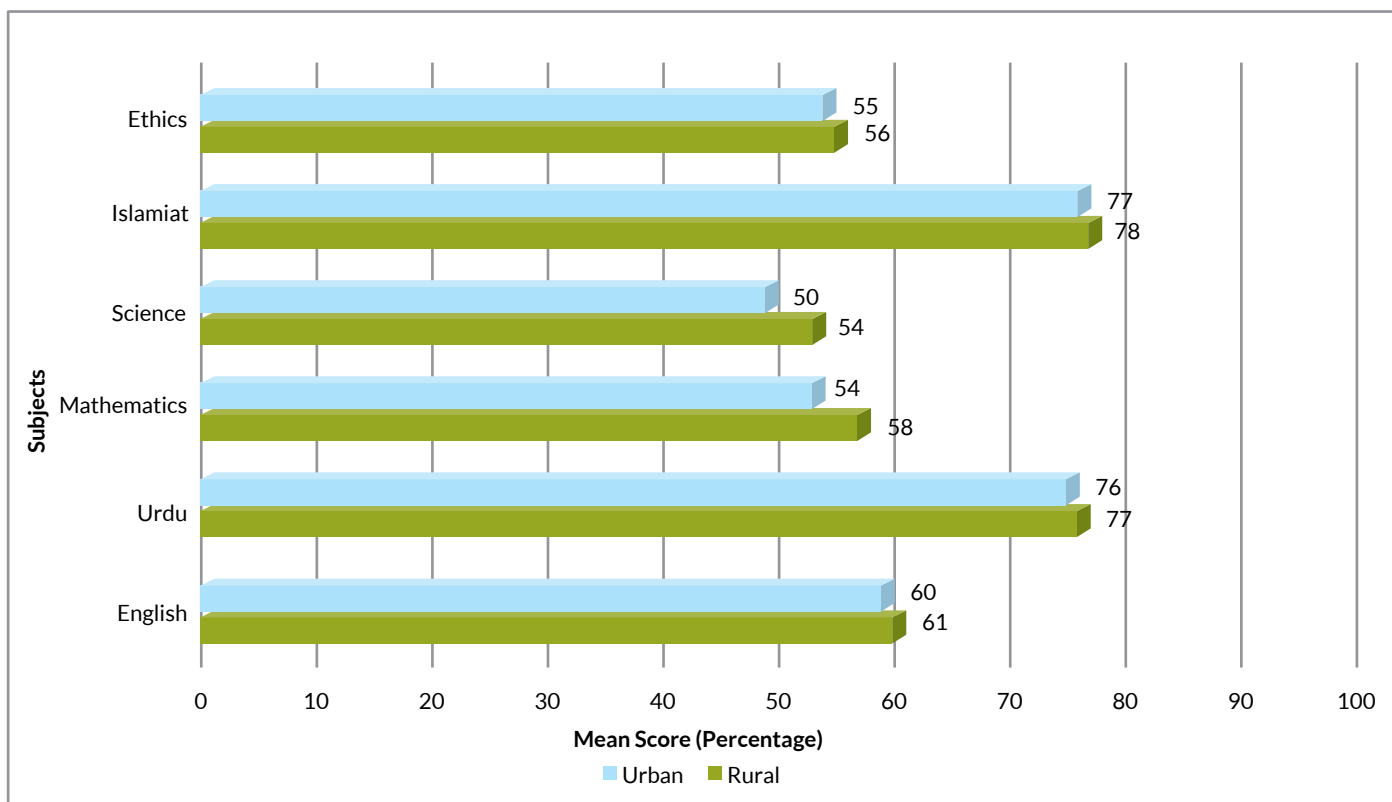
Performance of Students by Language of Exam (Grade-8)



Graph 35: Performance of students by language of exams (Grade 8)

The performance of students in bilingual exam at grade 8 level is shown in Graph 35. The performance of students of both English and Urdu medium in the subjects of Mathematics and Science was identical. However, in the subjects of Islamiat and Ethics, students from English medium achieved slightly better mean score percentage in the exams as compared to the students of Urdu medium schools.

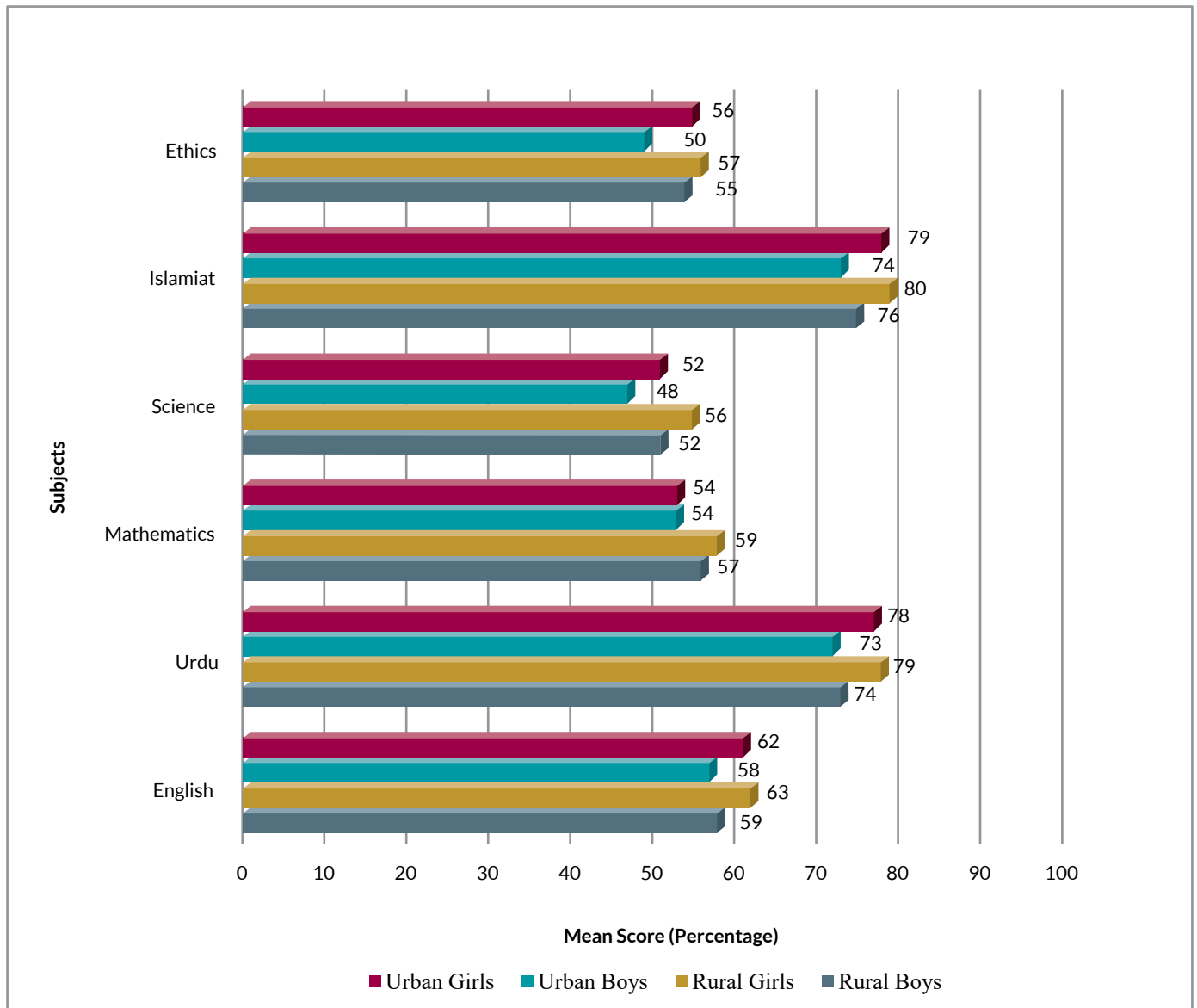
Subject Wise Performance of Students by Location (Grade-8)



Graph 36: Subject wise performance of students by location (Grade 8)

Graph 36 displays the overall as well as subject wise performance of the students by location at grade 8 level. The students from rural areas performed better than the students from urban areas in all the six subjects. Overall, students from rural areas scored 65% mean score while the students from urban areas scored 63% mean score.

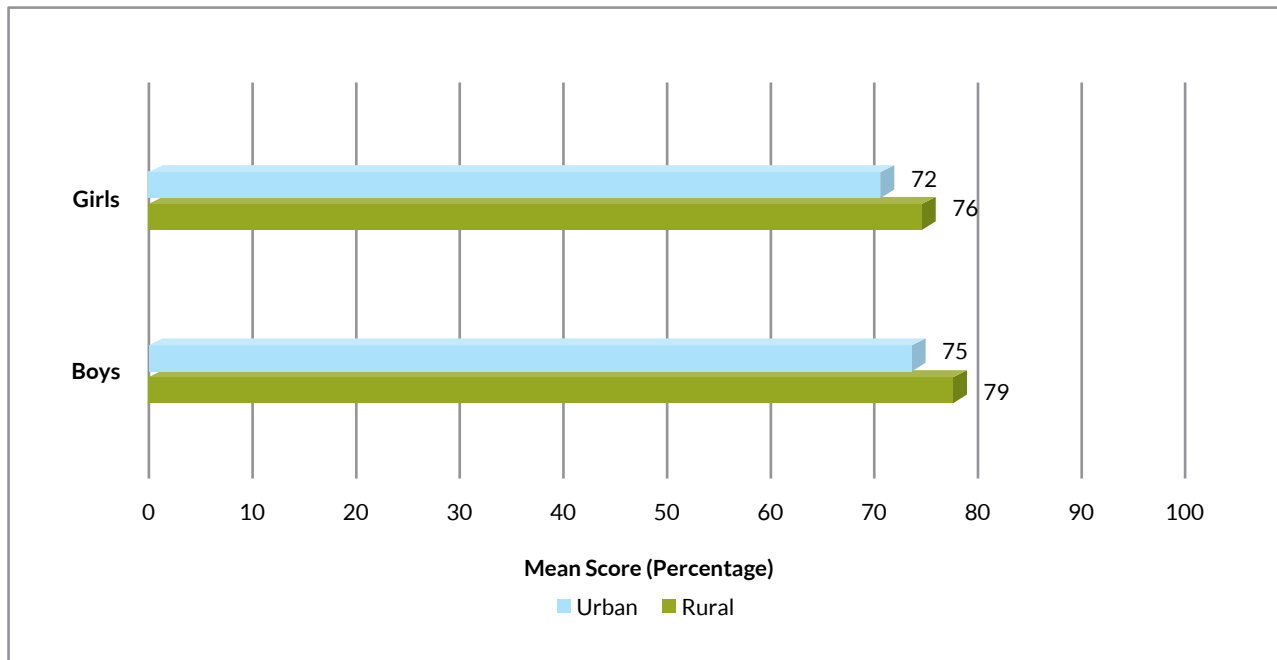
Subject Wise Performance of Students by Location and Gender (Grade-8)



Graph 37: Subject wise performance of students by location and gender (Grade 8)

The mean score of the boys and girls from rural and urban areas is shown in Graph 37. The analysis indicates that the girls from rural areas obtained higher mean score in all the six subjects. The girls from rural areas are scoring highest in the subjects of English, Urdu, Islamiat and Ethics followed by girls from urban areas and boys from rural & urban areas. In Mathematics, boys from rural areas are performing better than the students of urban areas. In the subject of Science, boys from rural areas and girls from urban areas scored equal mean score i.e. 52% followed by the boys from urban areas with mean score 48%.

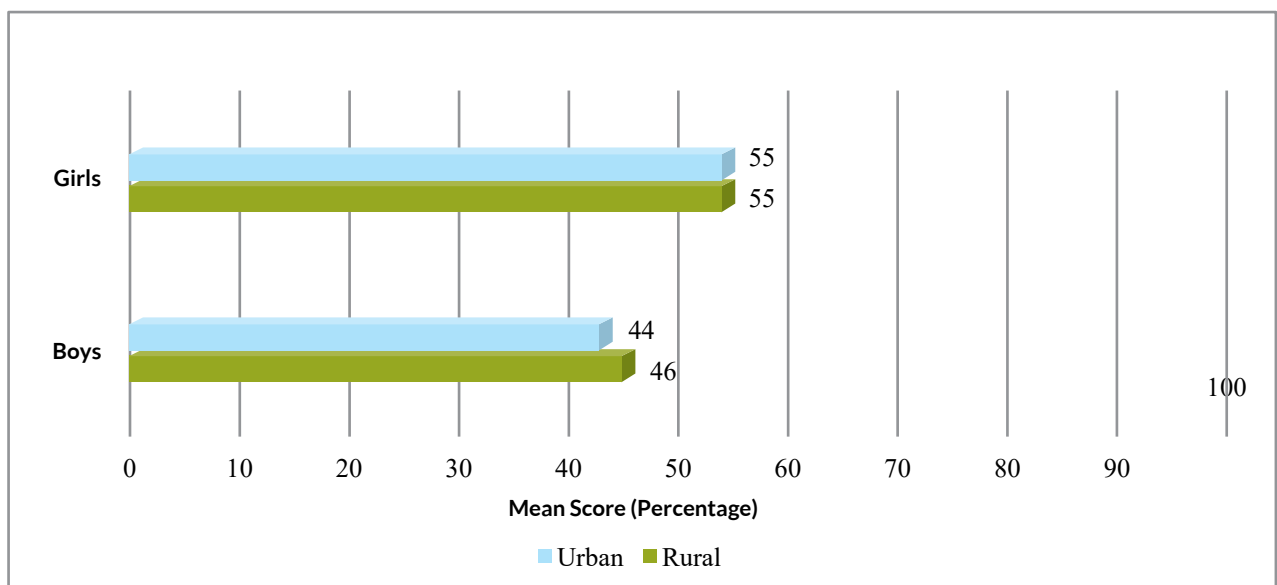
Gender and Location Wise Performance of Students in MCQs (Grade-8)



Graph 38: Gender and location wise performance of students in MCQs (Grade 8)

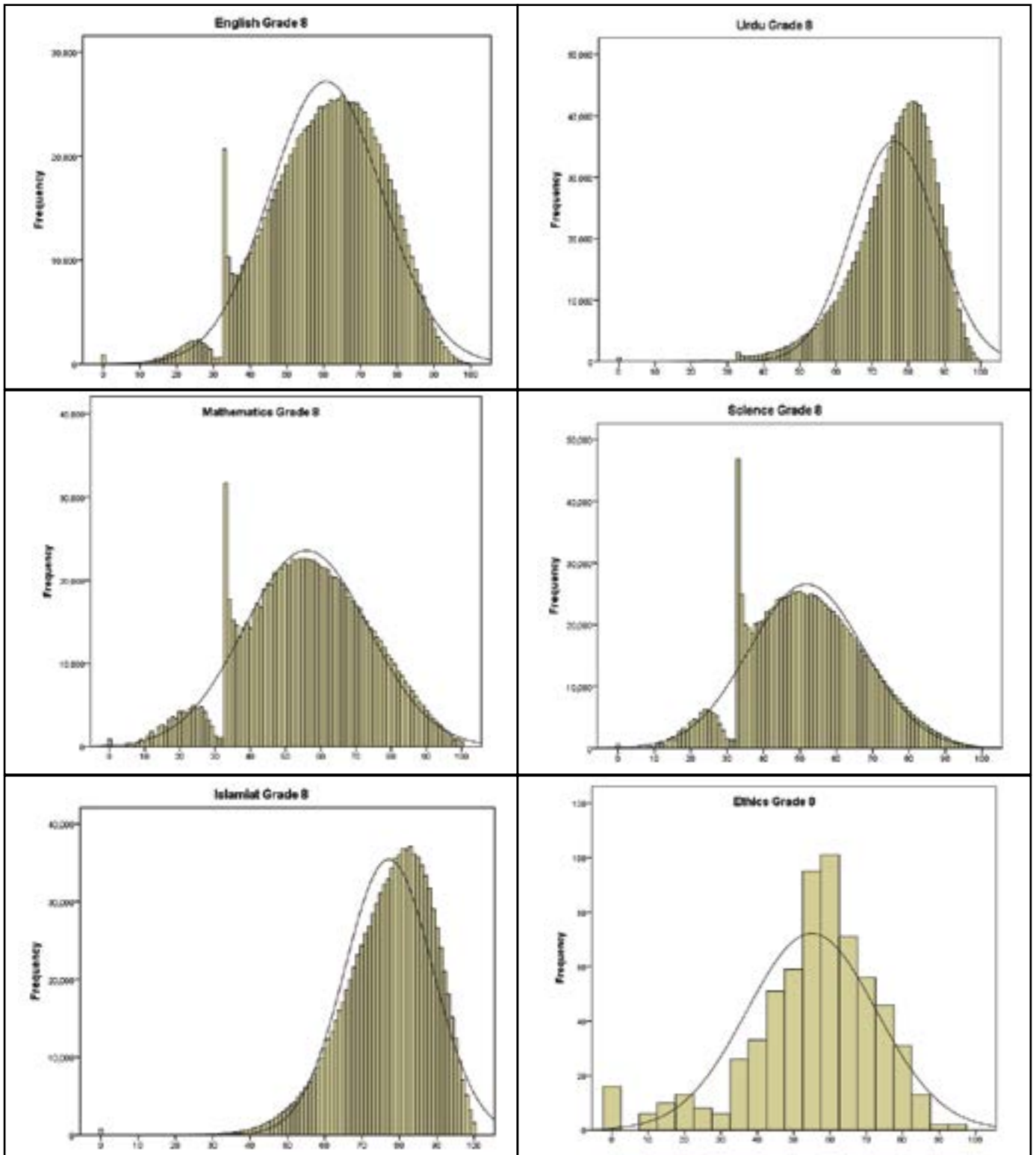
Graph 38 shows gender and location wise performance of the students in MCQs portion in grade 8 and reflects that boys outperformed girls in both rural and urban areas with the mean scores of 79% and 75% respectively. Both boys and girls from rural areas performed better than the students of urban areas.

Gender and Location Wise Performance of Students in CRQs (Grade-8)



Graph 39: Gender and location wise performance of students in CRQs (Grade 8)

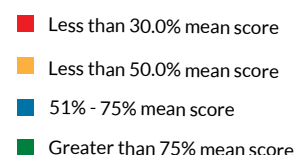
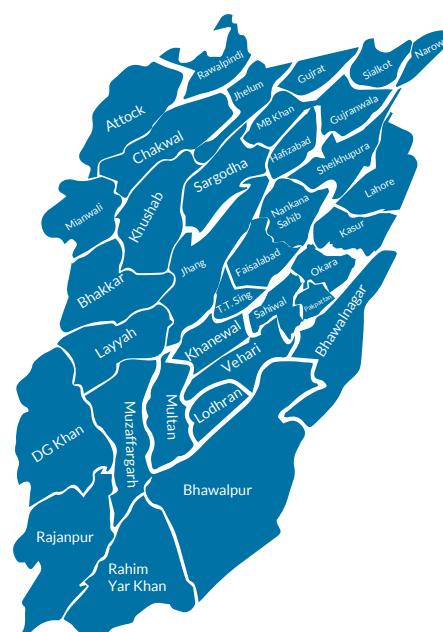
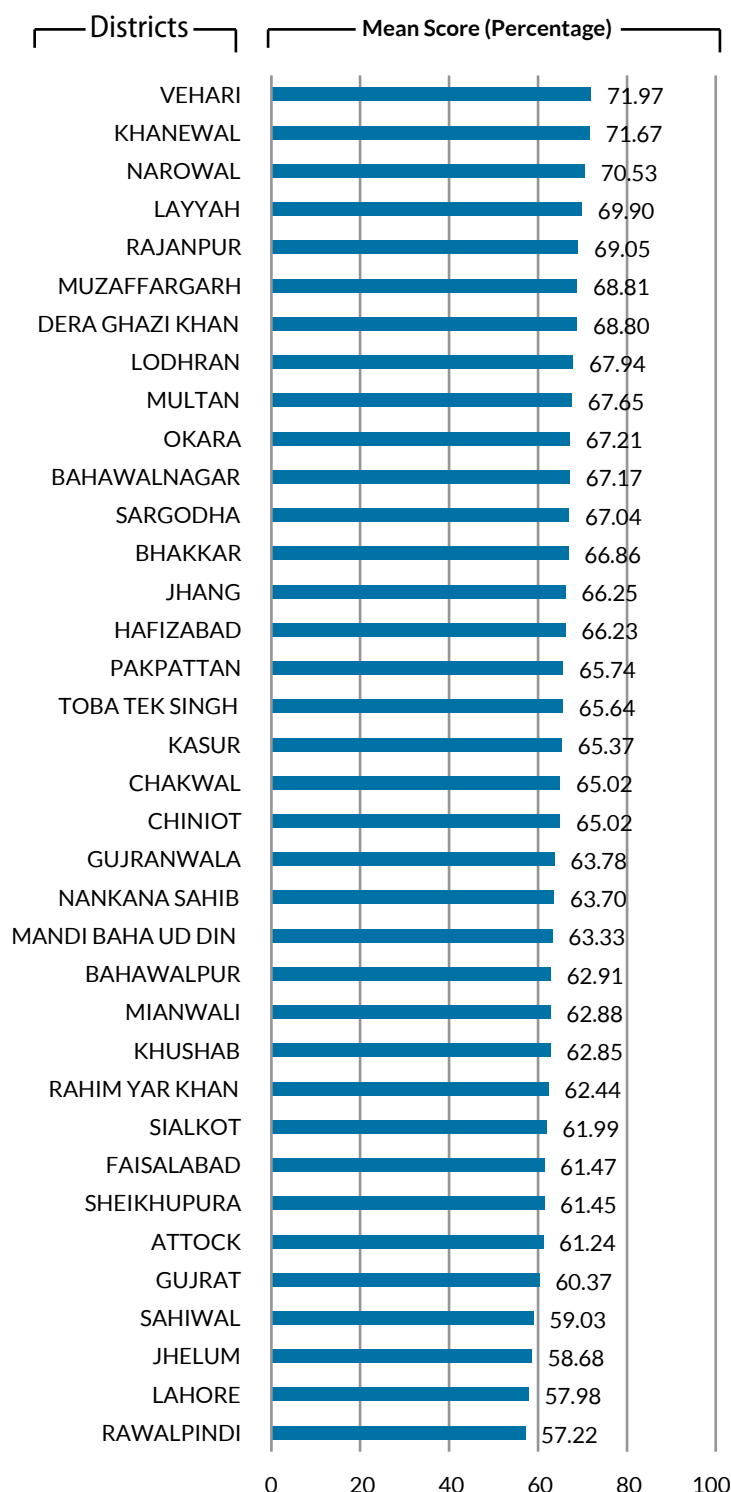
Graph 39 shows information about performance of students in CRQs portion at grade 8 level based on Gender and Location in PEC exams 2019. As displayed above, the mean score of girls was considerably higher than that of boys in both urban and rural areas. Boys from rural areas performed slightly better than boys from urban areas. The girls from both localities scored equally in CRQs portion.



Graph 40: Frequency distribution curve for all subjects (Grade 8)

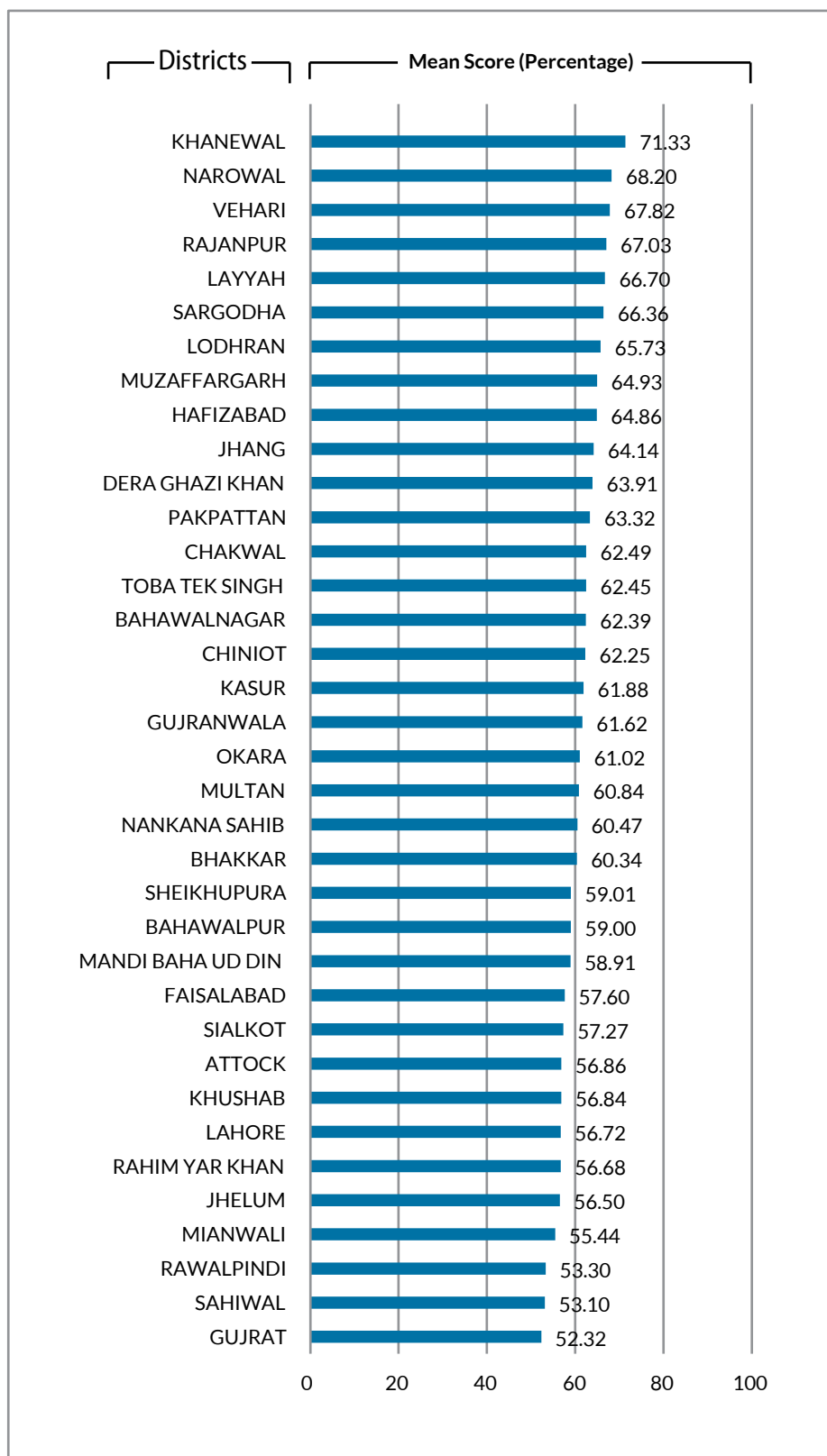
Graph 40 displays the distribution curves of all the six subjects with the analysis of students' performance on the basis of population at Grade 8 level in PEC exams 2019. It can be seen that the distribution curves of the subjects of English, Urdu and Islamiyat are left skewed and most of the values tended to cluster toward the right side of the x-axis. It means that the performance of students in these subjects is comparatively better. It can also be noted that, in case of Urdu and Islamiyat, the central peak of the distribution curves was sharper, high and left skewed which illustrates that most of the students got high marks in these subjects. Furthermore, in the case of Mathematics, Science and Ethics, the distribution curves are normally distributed and have a bell shape showing the average performance of the students in these subjects.

Over All District Wise Performace of Students (Grade-8)

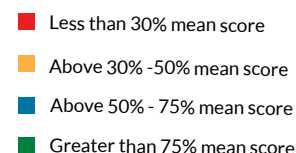


Graph 41: Overall district wise performance of Students (Grade 8)

District Wise Performance of Students in English (Grade-8)

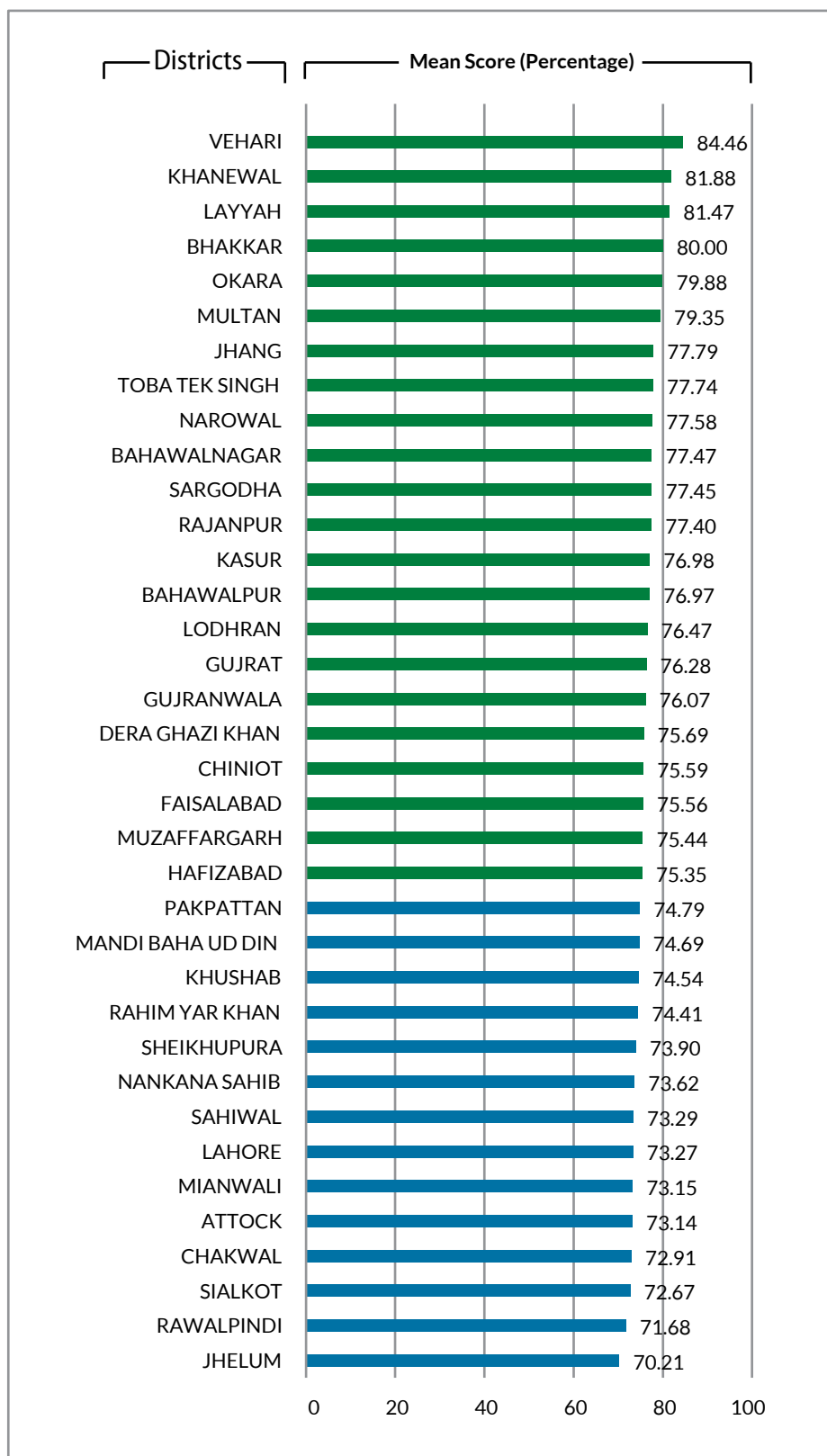


The performance of students, in PEC exams 2019, in the subject of English at grade 8 is shown in Graph 42. The districts Khanewal, Narowal and Vehari are the high-achieving districts by scoring mean score 71.33%, 68.20% and 67.82% in English. The districts Rawalpindi, Sahiwal and Gujrat are the low performing districts in English with 53.30%, 53.10% and 52.32% mean scores respectively.

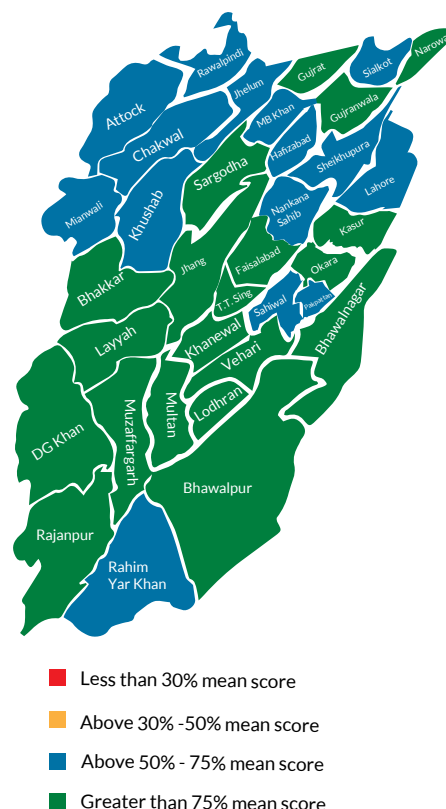


Graph 42: District wise performance of students in English (Grade 8)

District Wise Performance of Students in Urdu (Grade-8)

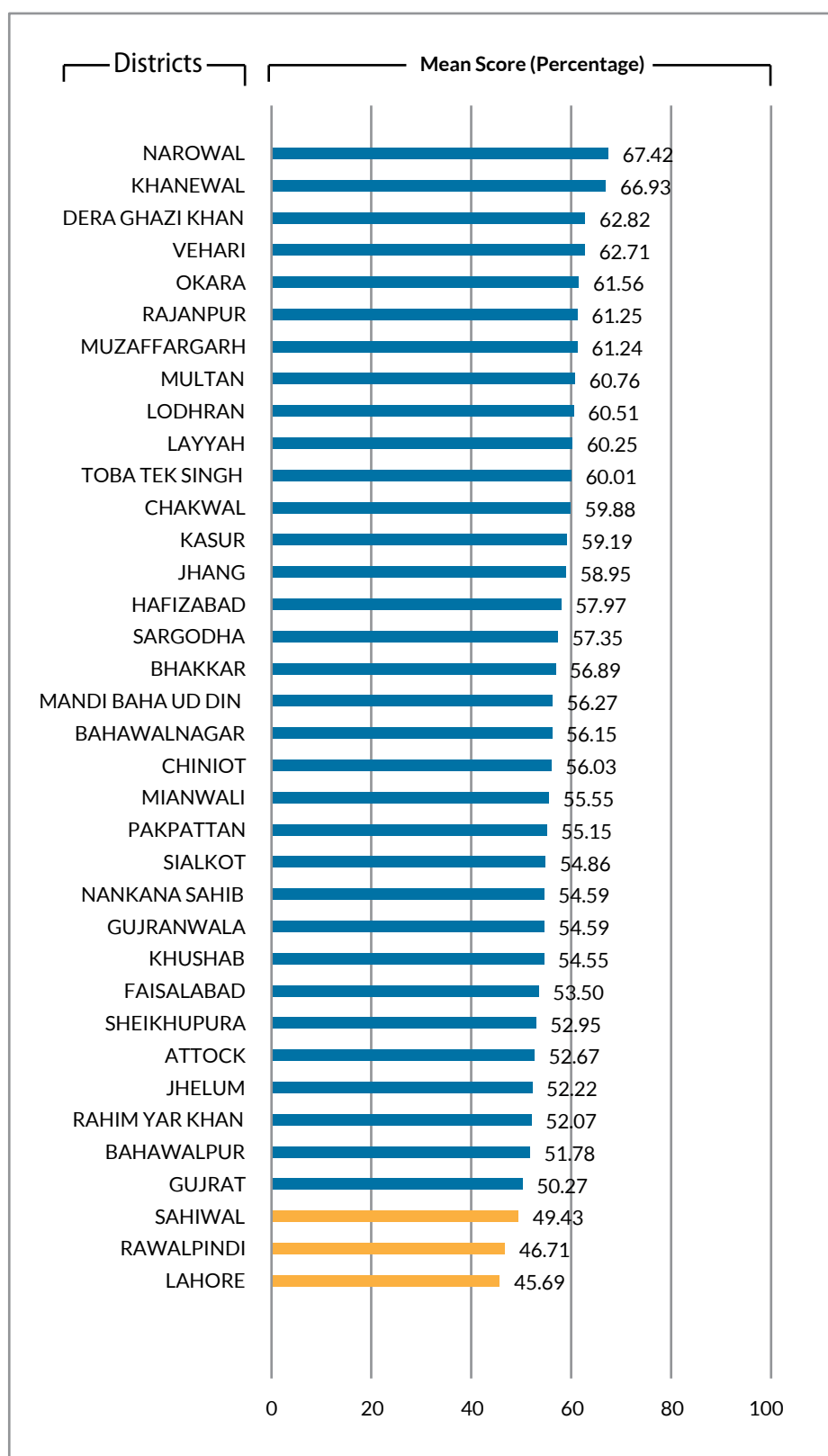


Graph 43 shows the district wise performance of students in Urdu at grade 8 level in PEC exams 2019. Vehari, Khanewal and Layyah scored more than 81 % mean score i.e. 84.46%, 81.88% and 81.47%. The districts Sialkot, Rawalpindi and Jhelum are three low performing districts with 72.67%, 71.68% and 70.21% mean scores. It can also be observed that students from all districts scored more than 70% mean score in the subject of Urdu.

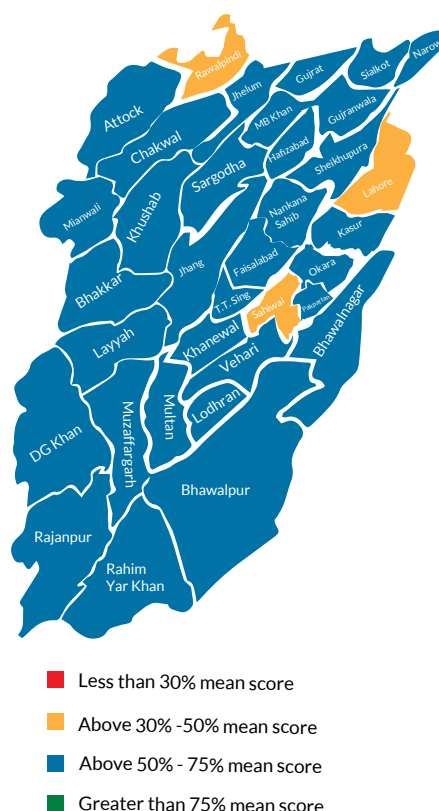


Graph 43: District wise performance of students in Urdu (Grade 8)

District Wise Performance of Students in Mathematics (Grade-8)

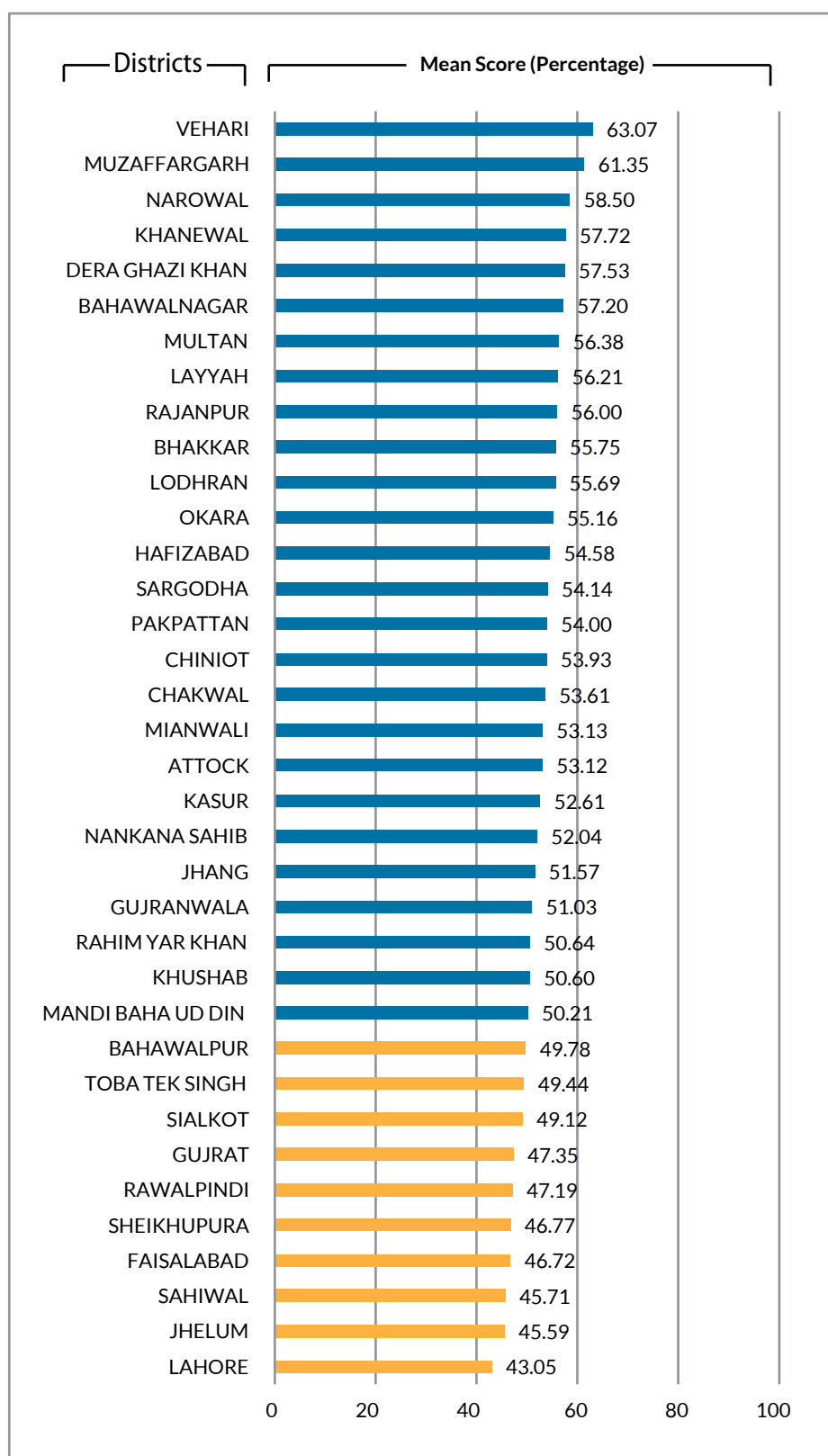


Graph 44 presents the overall district wise performance of the students in the subject of Mathematics. District Narowal is found to be at the top position with 67.42% mean score followed by Khanewal and Dera Ghazi Khan with mean score 66.93% and 62.82% respectively. The low performing districts in the subject of Mathematics are Sahiwal, Rawalpindi, and Lahore with the mean scores of 49.43%, 46.71% and 45.69% respectively.

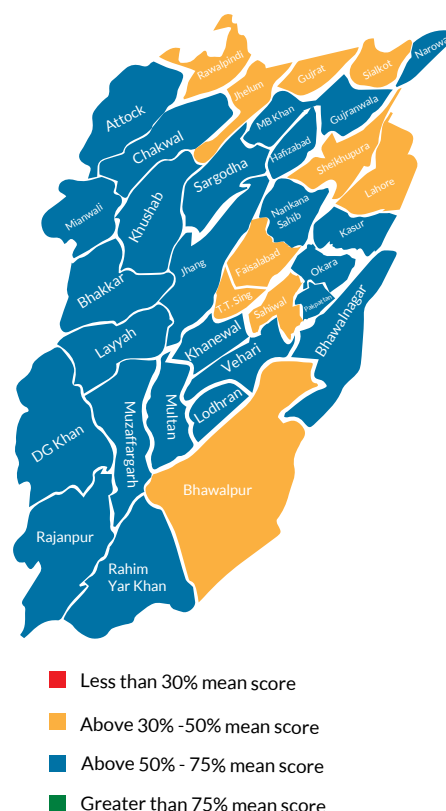


Graph 44: District wise performance of students in Mathematics (Grade 8)

District Wise Performance of Students in Science (Grade-8)

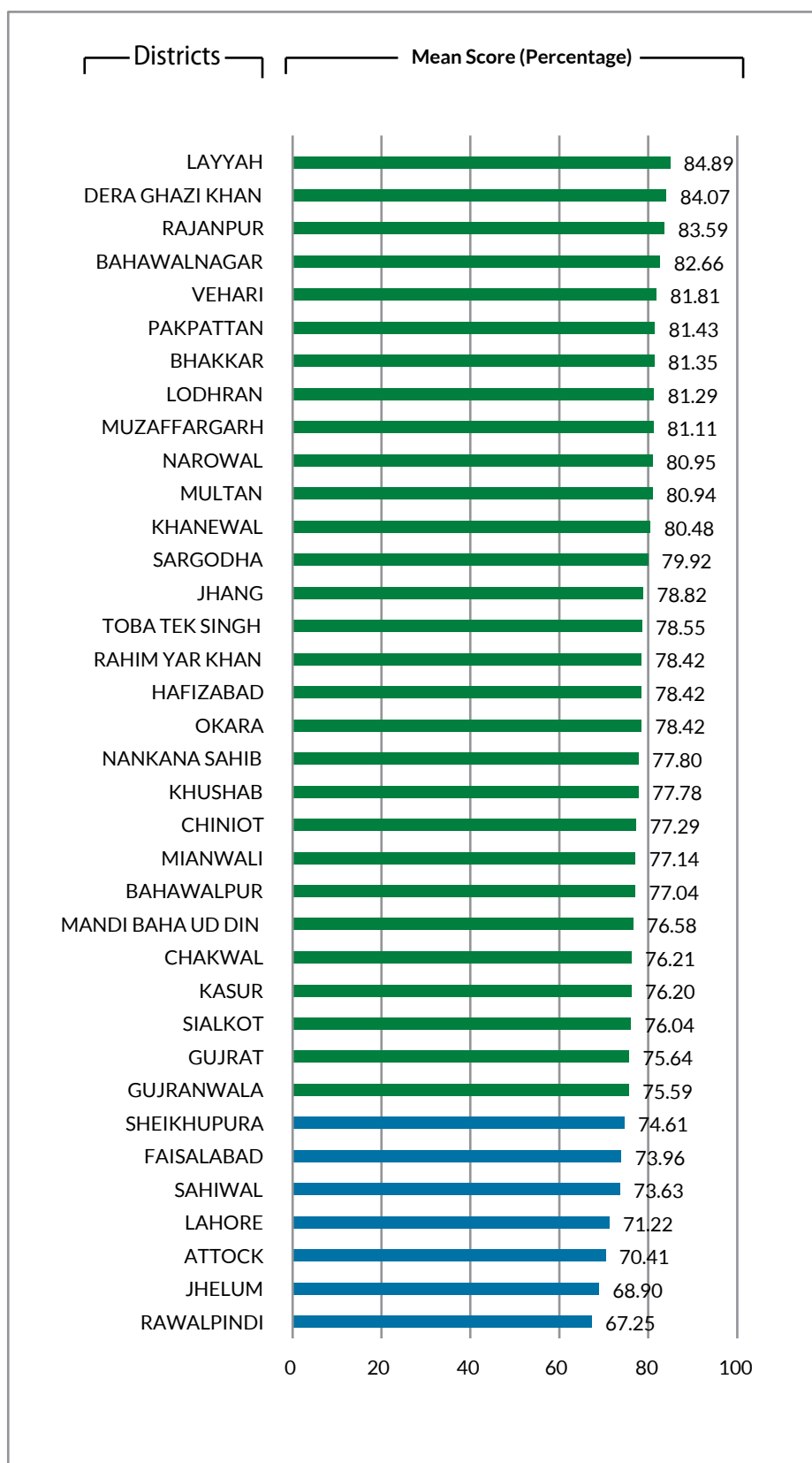


At grade 8 exam in subject of Science, as shown in Graph 45, Vehari is the top performing district with the mean score of 63.07%, followed by Muzaffargarh and Narowal with the mean score 61.35% and 58.50% while the low performing districts are Sahiwal, Jhelum and Lahore scored the mean score of 45.71%, 45.59% and 43.05% respectively. Out of 36 districts of Punjab; the students of 2 districts could only score more than 60% mean score, 24 districts could score between 50% and 60 % while 10 districts scored mean score ranged between 40% and 50% in the subject of Science in grade 8.

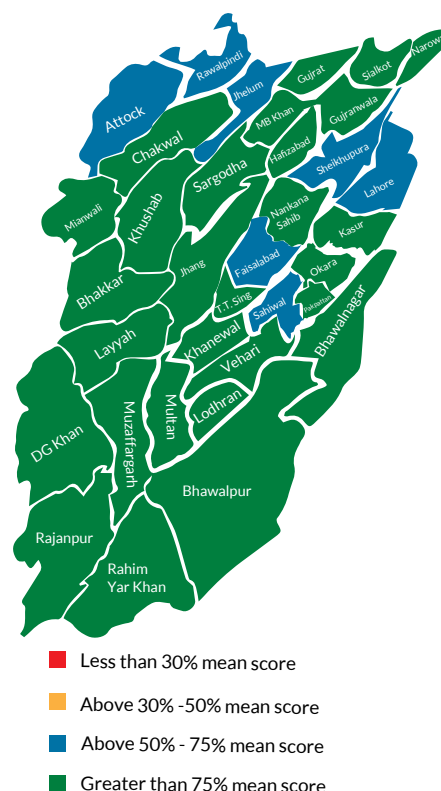


Graph 45: District wise performance of students in Science (Grade 8)

District Wise Performance of Students in Islamiyat (Grade-8)



Graph 46 illustrates the district wise performance of the students in Islamiyat at grade 8 level of PEC exams 2019. The result shows that the students of Layyah outperformed in this subject among all the districts with mean score 84.89%. Dera Ghazi Khan and Rajanpur scored 84.07% and 83.59% mean score. The low performing districts are Attock, Jhelum and Rawalpindi by obtaining the mean score of 70.41% and 68.90% and 67.25% respectively.



Graph 46: District wise performance of students in Islamiyat (Grade 8)

Key Findings and Recommendations

Table 5: Key Finding of Exam Analysis 2019 Along With Recommendations

		Grade 5	Grade 8
1	The trend of subject wise students achievement score (%) is:	Islamiat, Urdu, English, Mathematics, Science and Ethics with 70%, 65%, 63%, 61%, 54% and 44% mean score respectively.	Islamiat, Urdu, English, Mathematics, Ethics, Science with 77%, 76%, 61%, 56%, 55% and 52% mean scores respectively.
		*Marks for Nazra Quran portion (max=40%) are included in the overall mean percentage of students.	
	Recommendation	Training should be focused on teachers in the subjects of Science, Mathematics and English.	
2	Overall achievement (%) of students on MCQs and CRQs	Students performed better on MCQs than CRQs portion of PEC exam 2019.	
	Recommendation	- The internal assessment should be more focused on CRQs type tests to improve writing ability of students. Essay type competitions should be arranged to enhance the creative writing skill in schools at district management level. - It is suggested to introduce writing notebooks and regular dictation practice to improve handwriting, memory, writing skill in English and Urdu language. This practice can improve overall learning and writing ability of students. - It should be compulsory for students to get passing marks in all portions in order to pass the subject.	
3	Gender wise overall achievement (%) of students	Girls scored better mean score than boys in all subjects except Mathematics where they both scored equal mean percentage score Punjab Examination Commission in both grades.	
	Recommendation	District authorities need to pay more attention towards Boys' schools in terms of regular monitoring and mentoring.	
4	Overall performance of students by type of their registration	Students from public schools, students from private schools, and private registered students.	Students from private schools, students from public schools, and private registered students.

	Recommendation	It is suggested to arrange activities such as quiz, spelathon, mental math and science models making competitions between private and public schools to exchange their strengths with each other. To get fair comparative analysis of private and public sector schools; it is suggested that just brilliant students should be selected from public schools for appearing in PEC exams.	
5	District wise overall achievement (%) of students	The districts Faisalabad, Jhelum, Sahiwal, Rawalpindi and Lahore are among five low performing districts in grade 5	The districts Gujrat, Sahiwal, Jhelum, Lahore and Rawalpindi are among five low performing districts in grade 8
	Recommendation	The district management officers of low performing districts are highly recommended to: • Resolve the issues/ problems of the teachers to create a better learning environment for students. • Take measures to improve the teaching methodology. • Follow the pattern of model papers uploaded on PEC official website to prepare students on SLO based assessments.	



Weak SOLs Grade 5 & 8 (2016-2018)

Primary and Elementary teachers should focus on following Students Learning Outcomes (SLOs) because students are not performing well on the these SLOs

Weak SLOs Grade 5, 2016-2018	
Year 2018	Subject
Be able to describe the social benefits and rewards of ‘Afwo Darguzar’ (forgiveness).	Islamiat
Be able to describe the miracles given to Hazrat Isa عليه السلام	Islamiat
Be able to tell about the conquests made during the period of Hazrat Usman رضي الله عنه	Islamiat
Be aware to the duty of preaching and invitation of that of Hazrat Isa عليه السلام, and the wisdom by which he used to preach.	Islamiat
Be able to make clear the importance of fulfilling the promise, in the light of the Holy Quran and Sunnah of the Rasool صلى الله عليه وآله وسلم	Islamiat
Be able to make clear the ‘Afwo Darguzar’(forgiveness), in the light of the Holy Quran.	Islamiat
Evaluate the lesson which the Battle of Trench has for the Muslims of today.	Islamiat
May reach to the conclusion with regard to the effects of the Charter of Madina.	Islamiat
Be able to tell about the services of Hazrat Khalid bin Waleed, rendered for Islam.	Islamiat
Be able to make clear the importance of tolerance, in the light of the examples of the companions of the Rasool صلى الله عليه وآله وسلم	Islamiat
Give the introduction to Juma’prayer.	Islamiat
Make clear the conditions of the Charter of Madina.	Islamiat
Be able to make clear ‘Afwo Darguzar’ (forgiveness) in the light of the live actions from the life of our Rasool صلى الله عليه وآله وسلم	Islamiat
Be able to describe the reasons of the Battle of Trench.	Islamiat
Be able to know about the biography of Hazrat Usman رضي الله عنه	Islamiat
Read a simple bar graph given in horizontal and vertical form.	Mathematics
Solve real life problems involving direct and inverse proportion (by unitary method).	Mathematics
Investigate that light travels in a straight line.	Science
Suggest ways to reduce the impact of non-biodegradable materials.	Science
Describe the role of evaporation and condensation in the water cycle.	Science
Explain the production of static electrical charges in some common materials.	Science
Explain the impact of non-biodegradable materials on the environment.	Science
Year 2017	
Write a guided story using the elements of story writing.	English
Make clear the conditions of the Charter of Madina.	Islamiat
Be able to tell about the biography (life happenings) of Hazrat Khalid bin Walid رضي الله عنه	Islamiat
Make clear the importance of the incidence of Brotherhood of Madina (Muakhaat e Madina).	Islamiat
Be aware to the birth and childhood of Hazrat Isa عليه السلام	Islamiat
Be able to know about the biography of Hazrat Usman رضي الله عنه	Islamiat

Make clear the importance of Sunnah of the Rasool صلى الله عليه وآله وسلم in practical life.	Islamiat
Solve appropriate problems of perimeter and area.	Mathematics
Solve real life problems involving conversion, addition and subtraction of units of temperature.	Mathematics
Explain the impact of non-biodegradable materials on the environment.	Science
Year 2016	
Use critical thinking to respond to the text (post-reading): Apply world knowledge and own opinion to the text read. Relate what is read to their own feelings and experiences. (Interpretive)	English
Write a guided story using the elements of story writing.	English
Use critical thinking to respond to the text (post-reading): Apply world knowledge and own opinion to the text read. Relate what is read to their own feelings and experiences. (Inferential)	English
Write a guided paragraph using ideas gathered and organized through various strategies.	English
Respond to and ask wh questions.	English
Illustrate use of pronouns learnt earlier. Use the personal pronouns myself, yourself/ves, himself, herself, ourselves, themselves and itself.	English
Be able to give reason of Hazrat Usman's رضي الله عنه migration towards Abyssinia.	Islamiat
Be able to make clear the importance of tolerance, that too in the light of the life examples of the Rasool صلى الله عليه وآله وسلم.	Islamiat
Be able to make clear 'Afwo Darguzar' (Forgiveness) in the light of the live actions from the life of our Rasool صلى الله عليه وآله وسلم.	Islamiat
Be able to know about the Battle of Badr (Ghazwa e Badr).	Islamiat
Be able to narrate the reasons of the Battle of Badr.	Islamiat
Be able to tell as to why Hazrat Usman رضي الله عنه is called Zunnurain (possessor of two lights).	Islamiat
Be able to make clear the importance of tolerance, in the light of the examples of the companions of the Rasool صلى الله عليه وآله وسلم.	Islamiat
Be able to describe the miracles given to Hazrat Isa عليه السلام.	Islamiat
Be able to make clear the importance of frugality, in the light of the life of the Rasool صلى الله عليه وآله وسلم.	Islamiat
Be able to describe the social benefits and rewards of 'Afwo Darguzar' (Forgiveness).	Islamiat
Tell about preparation of the Non-Muslims with regard to the Battle of Badr.	Islamiat
Be able to know about the biography of Hazrat Usman رضي الله عنه.	Islamiat
Solve real life problems involving conversion, addition and subtraction of units of time.	Mathematics
Solve real life problems involving conversion, addition and subtraction of units of temperature.	Mathematics
Define and identify direct and inverse proportion.	Mathematics
Solve real life problems involving mixed operations of addition, subtraction, multiplication and division.	Mathematics
Solve real life problems involving multiplication of fractions.	Mathematics
Describe the properties of the three states of matter on the basis of arrangement of particles.	Science



Investigate and describe how living things affect and are affected by soils.	Science
Investigate and describe how living things affect and are affected by soils.	Science
Identify similarities and differences among the different types of soil.	Science
Explain main causes of water, air and land pollution.	Science
Compare the structure of a monocot and a dicot seed.	Science

Weak SLOs Grade 8, 2016-2018	
Year 2018	Subject
Be able to make clear the Quranic injunctions, regarding forgiveness.	Islamiyat
Be able to describe the importance of law.	Islamiyat
Be able to describe (give detail) the Rituals of Pilgrimage (Manasik e Hajj).	Islamiyat
Be able to describe 'Amr Bil Ma'roof Wa Nahi Anil Munkar', with reference to sayings of the Rasool صلى الله عليه وآله وسلم.	Islamiyat
Be able to describe the meaning of steadfastness, with some detail.	Islamiyat
Make clear the concept of Rasool صلى الله عليه وآله وسلم as a teacher.	Islamiyat
Be able to describe the importance of fulfillment of promise, in the light of the Holy Quran and sayings of the Rasool صلى الله عليه وآله وسلم.	Islamiyat
With regard to preaching, be able to make characteristics cleared of the prudential style of preaching of the Rasool صلى الله عليه وآله وسلم.	Islamiyat
Be able to make clear the importance of pilgrimage.	Islamiyat
Be able to tell the meaning of sincerity (Ikhlas).	Islamiyat
Be able to describe the purpose of jihad.	Islamiyat
Be able to describe the rights of the widows.	Islamiyat
Be able to explain virtuous worldly deeds, necessary for success in hereafter.	Islamiyat
Be able to describe the family background of Hazrat Fatima رضي الله عنها.	Islamiyat
Be able to explain the Quranic teachings, regarding Justice.	Islamiyat
Be able to make clear the concept of life hereafter.	Islamiyat
Be able to describe Quranic injunctions, regarding 'Amr Bil Ma'roof Wa Nahi Anil Munkar'.	Islamiyat
Be able to narrate sayings of the Rasool صلى الله عليه وآله وسلم, regarding Khashiat e Elahi.	Islamiyat
Be able to make responsibilities clear of that of husband and wife, in the light of the Holy Quran.	Islamiyat
Solve real life problems involving two simultaneous linear equations in two variables.	Mathematics
Find percentage discount.	Mathematics
Calculate mean waited mean, median and mode for un grouped data.	Mathematics
Solve real life problems regarding life and vehicle	Mathematics
Construct a kite when two unequal sides and a diagonal are given.	Mathematics
Describe the measures of central tendency.	Mathematics
Describe the following relations between the pairs of angles when a transversal intersects two parallel lines. · Pairs of corresponding angles are equal. · Pairs of alternate interior angles are equal.	Mathematics



·Pair of interior angles on the same side of transversal is supplementary, and demonstrate them through figures	
Verify commutative and associative laws with respect to union and intersection.	Mathematics
Construct frequency table.	Mathematics
Convert Pakistani currency to well-known international currencies.	Mathematics
Demonstrate union and intersection of three overlapping sets through Venn diagram.	Mathematics
Demonstrate the following properties of a parallelogram. • Opposite sides of a parallelogram are equal. • Opposite angles of a parallelogram are equal. • Diagonals of a parallelogram bisect each other.	Mathematics
Design and demonstrate the working of a power station.	Science
Plan and conduct a campaign that can help reduce air pollution in their environment.	Science
Compare characteristics related to ear and eye color.	Science
Explain how lenses are used to correct short sightedness and long sightedness.	Science
Compare and contrast the working of a human eye with the lens camera.	Science
Explore the effects and applications of expansion and contraction of solids.	Science
Year 2017	
Apply world knowledge and own feelings/opinion to the text read (personal response).	English
Write and revise short formal dialogues.	English
Be able to write an introductory note on Hazrat Isa عليه السلام.	Islamiat
Be acquaint with the rituals of pilgrimage (Manasik e Hajj).	Islamiat
Be able to make clear the importance of Afwo Darguzar (Forgiveness), in the light of the Quran and the life of the Rasool صلى الله عليه وآله وسلم.	Islamiat
Be able to make clear the necessary conditions of ‘Amr Bil Ma’roof’.	Islamiat
Be able to describe the etiquettes of domestic life.	Islamiat
Solve real life problems involving two simultaneous linear equations in two variables.	Mathematics
Construct a histogram representing frequency table.	Mathematics
Construct a regular hexagon when a side is given.	Mathematics
Construct a rectangle.	Mathematics
State and apply Hero’s formula to find the areas of triangular and quadrilateral regions.	Mathematics
Define the term pressure.	Science
Investigate the processes making use of thermal expansion of substance.	Science
Identify the simple devices that generate electricity in daily life.	Science
Design and demonstrate the working of a power station.	Science
Investigate how eyes get used to darkness after sometime.	Science
Compare and contrast the working of a human eye with the lens of camera.	Science
Year 2016	
Read a story to analyze text to analyze characters, their motives, actions and emotional responses.	English
Write and revise short formal dialogues.	English
Make clear the concept of Rasool صلى الله عليه وآله وسلم as a teacher.	Islamiat
Be able to make clear the importance of Good Social Dealing, from the Holy life of our Rasool صلى الله عليه وآله وسلم.	Islamiat
With regard to preaching, be able to make characteristics cleared of the prudential style of preaching of the Rasool صلى الله عليه وآله وسلم.	Islamiat



Solution of Simultaneous Linear Equations: Solve real life problems involving two simultaneous linear equations in two variables.	Mathematics
Frequency Distribution: Construct frequency table.	Mathematics
Describe the term atmospheric pressure.	Science
Explain how genes are introduced into a bacterium.	Science
Differentiate between mitosis and meiosis.	Science
Describe the properties of acids, alkalis and salts.	Science
Describe the importance of exothermic reactions in daily life.	Science
Draw and label human excretory system.	Science
Describe the image formation using a lens by ray diagram.	Science
Suggest the ways to solve the problems that have resulted from space exploration.	Science



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