

EXAM ANALYSIS REPORT

2018



**Punjab Examination
Commission**



PEC Exam Analysis Report 2018

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CEO (EDU)
CRQ CTSC
AEO

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LIST OF ABBREVIATION & ACRONYMS

AEO	Assistant Education Officer
CEO (EDU)	Chief Executive Officer (Education)
CRQ	Constructed Response Question
CTSC	Cluster Training & Support Center
DDEO	Deputy District Education Officer
DEO	District Education Officer
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 (formerly DSD)
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	Identify the even number among the following. a) 3 b) 5 c) 8 d) 9
Understanding	These questions go beyond simple recall and require students to combine information to understand the situation
Example Question	Identify the group of even numbers among the following. a) 1, 3 b) 3, 5 c) 2, 4 d) 7, 9
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	Identify the group of all even numbers among the following. a) 1, 3, 4, 5 b) 2, 3, 5, 6 c) 2, 4, 5, 9 d) 2, 4, 6, 8

EXECUTIVE SUMMARY

In the year 2018 Punjab Examination Commission has successfully completed PEC exam cycle-2018 for grade 5 and grade 8 in the 36 districts of the province. PEC exam is compulsory for the students of the grade 5 and 8 of public schools of the province but the students of private schools and private candidates also enrolled themselves in these exams. PEC Exam Analysis Report 2018 is a summary of activities of the exam cycle with statistics. A total of 2,549,677 students of grade 5 and grade 8 were registered in PEC exam 2018 including all male and female students of public school, students from private schools and private registered candidates from rural and urban areas of the province. Out of the total enrolled students 2,480,050 students appeared in the PEC exam 2018 i.e. 97.27% appearance percentage. The number of students passed in the exam is 2,148,805 which is equivalent to 86.6% (passed students out of 2,480,050 students appeared in the exams, 2018).

In grade 5 overall performance of students was better in the subjects of Islamiyat (including performance in Nazra portion of Holy Quran) and Urdu with mean score 67% and 63% while the students scored lowest in Science and Ethics with mean percentage equal to 56% and 52% respectively. While in the subjects of Mathematics, English and Science students scored 61%, 59% and 56% mean score. In MCQs students of grade 5 scored more than 70% mean score in the subjects of Islamiyat, Mathematics and Urdu. While in the subjects of English, Science and Ethics the students achieved 68%, 64% and 62% mean score. Overall the students performed better on MCQs with mean score ranging from 62% to 74% than CRQs with mean score ranging from 34% to 54%. In different versions of exams; the performance of students in all versions of the subjects was almost same except for Mathematics which means the difficulty level was nearly same in all subjects. In MCQs, Both boys and girls achieved equal mean score in the subjects of English (i.e. 68%), and Science (i.e. 64%). The girls scored better mean percentage than that of boys in other subjects except Mathematics. On CRQs girls performed better and achieved higher mean score than boys in all subjects. Overall, girls achieved higher mean score than boys in all subjects except Mathematics. By type of candidates' registration, the students from private schools performed better in PEC Exam 2018 and scored 313 out of 500 mean score, in contrast to students of public schools and private registered candidates who could score 302 and 273 out of 500 mean score respectively. The girls again performed better than boys within each type of registration. The language of exams had no effect on the performance of students for the subjects of Mathematics (mean score = 61%) and Islamiyat (mean score= 67%). However, in Science and Ethics the students performed better in Urdu version with 56% and 55% mean score respectively as compared to English version where students got 53% and 52% respectively. Location-wise performance of students from rural areas was better than the students from urban areas in all subjects. Overall, the girls performed better than the boys

in both localities.

In Grade 8 overall, students performed better in the subjects of Islamiyat (mean score = 74%), including performance in Nazra portion of Holy Quran, and Urdu (mean score= 73%) while lowest in Science (mean score = 53%) and Mathematics (mean score=52%). In English, Ethics and Science students achieved 62%, 61% and 53% mean score respectively. Students performed better on MCQs with mean score ranging from 68% to 83% than CRQs with mean score ranging from 35% to 68%. In different versions of exams; the performance of students in all versions of the subjects was almost same except for Mathematics which means the difficulty level of all versions was nearly same in all subjects. On MCQs the performance of boys was better in the subjects of English, Mathematics and Science with mean score equal to 74%, 73% and 70% as compared to girls who scored equal to 71%, 67% and 68% mean score respectively. In all other subjects girls performed better than boys. On CRQs girls performed exceptionally better than boys in all subjects. Overall boys performed better on MCQs than the girls and the girls achieved higher mean score than boys on CRQs. By the type of candidates the performance of private school students (327 out of 500 mean score) was better than the students of public school (312 out of 500 mean score) in all subjects. Means score of private registered candidates (277 out of 500 mean score) was least in all subjects. The girls belonging to each type of candidates performed better than the boys. In the subjects of Mathematics and Islamiyat students performed better in the English version of the exam. In Science students performed slightly better in the Urdu version of the exam. While in Ethics the students performed equally in both languages. Location wise performance of students from rural areas was better than the students from urban areas in all subjects. The girls performed better than the boys in both localities.

The district wise analysis exhibited that in grade 5 overall mean score ranges from 53.32% to 68.27%. The five highest performing districts include Vehari, Narowal, Khanewal, Okara and Layyah with mean scores equal to 68.27%, 66.64%, 66.51%, 66.21% and 65.58% mean score respectively. The district wise overall performance of grade 8 showed that the mean score ranges from 56.43% to 70.98% with five top performing district which include Vehari, Khanewal, Layyah, Okara and Narowal with 70.98%, 69.44%, 68.22%, 68.09% and 68.08% mean score respectively. By analyzing the results, the performance of students across the cognitive levels showed that the students scored better in the knowledge level than the understanding, application and higher order skills. Application and higher order skill levels are relatively difficult than the understanding level. owever, the students of grade 5 performed better than the students of grade 8 in all cognitive levels. Within the subjects students performed variedly on different sub-contents/domains. For instance in Mathematics students performed better on Information handling and Numbers than Geometry. In Linguistics, students performed better on Grammar portion than Creative writing skills in both grades. In Science, the contents from biological and ecological portion were performed better than the chemical and physical portion. In Islamiyat, the content Emaniat and Ibadaat was the most attempted portion.

**EXAM
ANALYSIS REPORT**



SECTION 1

INTRODUCTION

SECTION 1 INTRODUCTION

Punjab Examination Commission (PEC) is a Government of Punjab mandated autonomous body to conduct external assessments and examination for the students of Grades 5 and 8 in the province of Punjab. These grades are selected as they are academic gateways for students to enter middle and secondary classes. PEC examinations inform the School Education Department (SED), the government, public and other stakeholders about student achievement levels in Punjab. The exam also generates rich data that can be used to determine various factors affecting student achievement at classroom level.

2018

Scale of Exams

Punjab Examination Commission honors to conduct examination in the province of Punjab (area: 205,344 km²) of population 110 million in 36 districts, at massive scale of about 2.5 million students enrolled in grade 5 and 8 of public and private schools as well as a certain percentage of individual applicants who enrolled themselves as private registered candidates in PEC exams. In PEC exam 2018 a total of 2,549,677 students of grade 5 and 8 were registered using Online Student Registration System (OSRS) from the whole province. Out of which 2,480,050 students appeared in the exams and 2,148,805 students passed the exams effectively, which makes 86.64 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 Results of Grade 5 (2018)

Grade 5					
Type	Gender	Registered	Appeared	Pass	*Pass %
Public schools students	Boys	489,922	479,895	405,679	84.53
	Girls	477,875	470,687	417,785	88.76
Private schools students	Boys	257,516	247,730	213,434	86.16
	Girls	220,544	213,490	190,102	89.04
Private registered candidates	Boys	19,949	18,390	13,071	71.08
	Girls	14,558	13,492	10,508	77.88
TOTAL		1,480,364	1,443,684	1,250,579	

*Candidates who obtained 33% marks were considered pass.

Table 2: Summary of Students and Results of Grade 8 (2018)

Grade 8					
Type	Gender	Registered	Appeared	Pass	*Pass %
Public schools Students	Boys	387,557	379,749	331,150	87.20
	Girls	353,563	348,390	303,763	87.19
Private schools Students	Boys	146,434	138,007	120,172	87.08
	Girls	140,147	133,178	116,259	87.30
Private registered candidates	Boys	24,155	21,441	15,417	71.90
	Girls	17,457	15,601	11,465	73.49
TOTAL		1,069,313	1,036,366	898,226	

* Candidates who obtained 33% marks were considered pass.

In PEC exam 2018, candidates were assessed in the subjects of English, Urdu, Mathematics, Science and Islamiyat, (Ethics was an option for Non-Muslim students) in grade 5 and 8. Four different versions were developed for each subject with same difficulty and cognitive level of items. Bilingual exam papers were developed in the subjects of Mathematics, Science, Islamiyat and Ethics of both grades.

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 2018 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 (2018)

Exam Centers and Staff	Grade 5	Grade 8	Total
Exam centers	7,067	6,120	13,187
CTSC heads	-	-	1,950
Superintendents	7,060	6,106	13,166
Deputy superintendents	7,029	6,097	13,126
Resident inspectors	7,061	6,116	13,177
Invigilators	49,514	36,602	86,116
Class IV staff	6,896	5,983	12,879

For marking of PEC exams a total of 710 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 head examiners and CTSC heads. Summary of marking staff deployed in PEC exam 2018 activity is shown in Table 4.

Table 4: Marking staff deployed in marking of PEC exam 2018

Marking Staff for PEC Exam 2018			
	Grade 5	Grade 8	Total
Head Examiners	1,250	1,048	2,298
Sub Examiners	12,991	11,274	24,265
IT Teachers	7,067	6,120	1,519
Assistants	1,250	1,048	2,298



**EXAM
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SECTION 2

STUDENT PERFORMANCE

SECTION 2 STUDENT PERFORMANCE

The performance of students in PEC exam 2018 in grade 5 and grade 8 is illustrated in graphs given in this section. The drafted graphs are based on analysis run on the exam 2018 data on different parameters such as subject-wise, language-wise, gender-wise, location-wise, district-wise, type of candidates based on registration, topic-wise and across cognitive levels.

Performance of Students in Grade 5

Key Findings of Grade 5

- Overall students performed better in the subjects of Islamiyat (including performance in Nazra portion of Holy Quran) and Urdu while lowest in Science and Ethics (attempted by non-Muslim students only) with mean percentage more than 50% in each subject.
- Students performed better on MCQs with mean score ranging from 62% to 74% than CRQs with mean score ranging from 34% to 54%.
- The performance of students in different versions of English, Mathematics and Urdu is similar that means the difficulty level is same in these subjects. While the trend varies a little in the subjects of Islamiyat and Science.
- On MCQs the performance of girls was better than that of boys in all subjects except for the subject of Mathematics in which boys scored higher than girls. On CRQs girls performed better than boys in all subjects.
- By the type of candidates the performance of private school students was better than the students of public schools in all subjects except for the subject of Ethics. Means score of private registered candidates was least in all subjects.
- The language of exams had no effect on the performance of students for the subjects of Mathematics and Islamiyat. However, in Science and Ethics the students performed better in Urdu version of the papers.
- Location wise performance of students from rural areas was better than the students from urban areas in all subjects. On average, the girls performed relatively better than the boys in both localities.

Subject wise performance of students (Grade 5)

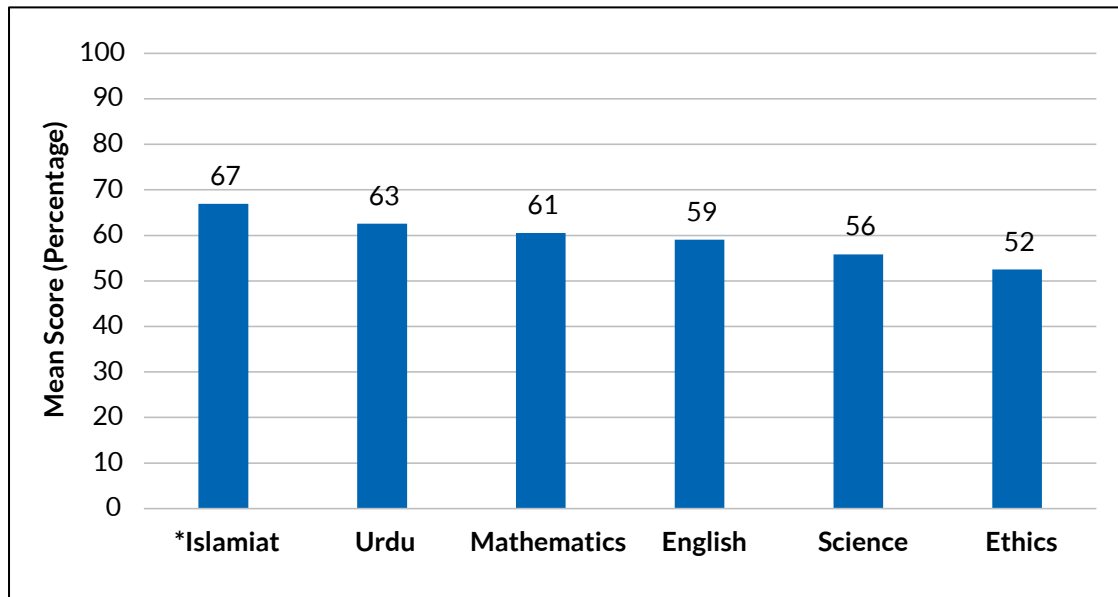


Figure 1: Subject wise overall performance of students in grade 5

Figure 1 represents the subject wise overall performance of students in grade 5. Students achieved highest mean score i.e. 67% in the subject of Islamiat which also includes the marks of Nazra portion of Holy Quran. Students scored second highest mean score in the subject of Urdu i.e. 63% while 61% mean in Mathematics, 59% mean score in English, 56% mean in Science and 52% mean in the subject of Ethics. In all subjects students scored more than 50% mean score in grade 5.

Performance of students on MCQs (Grade 5)

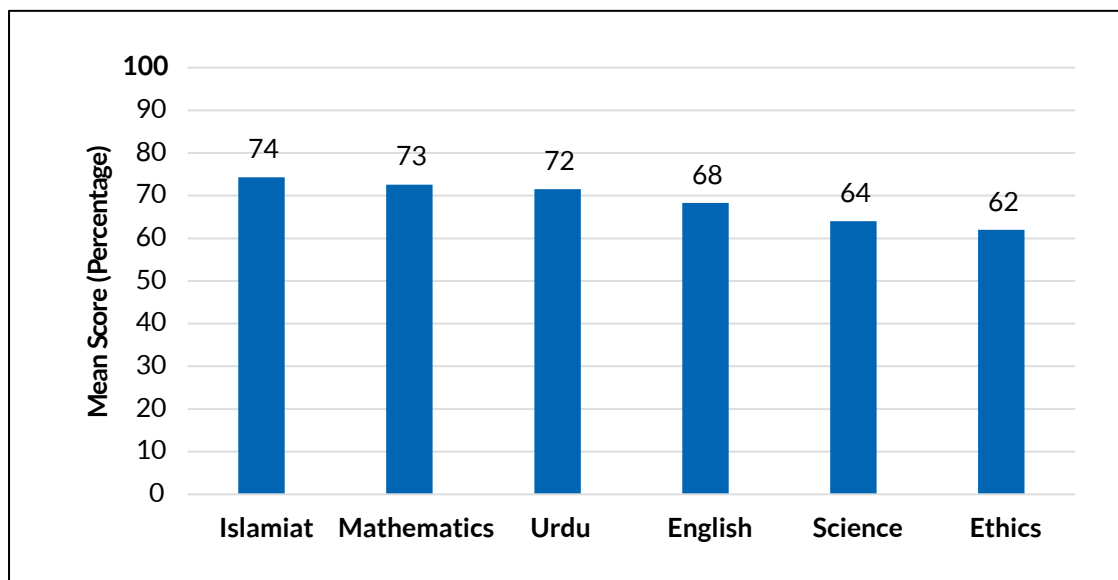


Figure 2: Subject wise performance of students on MCQs in grade 5

Subject wise performance of students on MCQs in grade 5 is shown in Figure 2. On MCQs students scored more than 70% mean score in the subjects of Islamiat i.e. 74%, in Mathematics i.e. 73% and Urdu i.e. 72%. While in the subjects of English and Science students scored 68% and 64% mean score respectively. The lowest mean score on MCQs was scored in Ethics.

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

Performance of students on CRQs (Grade 5)

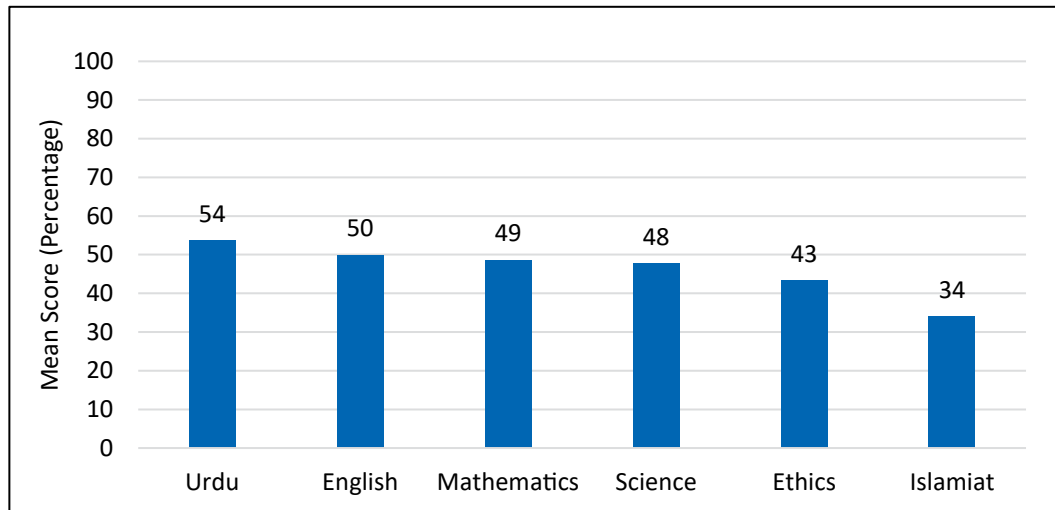


Figure 3: Subject wise performance of students on CRQs in grade 5

Subject wise performance of students on CRQs is shown in Figure 3. Students achieved highest mean score in CRQs portion in the subject of Urdu i.e. 54% while lowest in the subject of Islamiyat i.e. 34%. There is a little difference in the performance of students in the subjects of English, Mathematics and Science i.e. 50%, 49% and 48% mean score respectively.

Performance of students by paper versions (Grade 5)

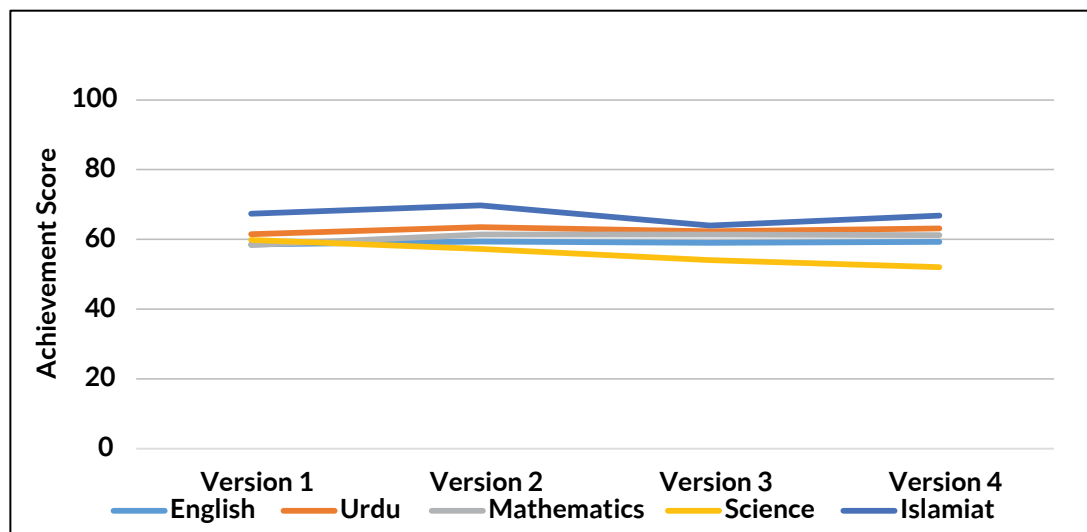


Figure 4: Performance of students by paper versions in grade 5

Figure 4 illustrates the performance of students by paper version in grade 5. The trend line for the subjects of Urdu, English and Mathematics is almost straight giving the fact that the difficulty level of each version of these subjects is similar. The trend line for the Science is straight though declining that elucidates that the version 4 is little bit difficult than the version 1. In Islamiyat, the trend line is zigzag between the 60 and 70 percent achievement score showing that difficulty level of this subject ranges between these two levels that are quite close.

Performance of students by gender on MCQs and CRQs (Grade 5)

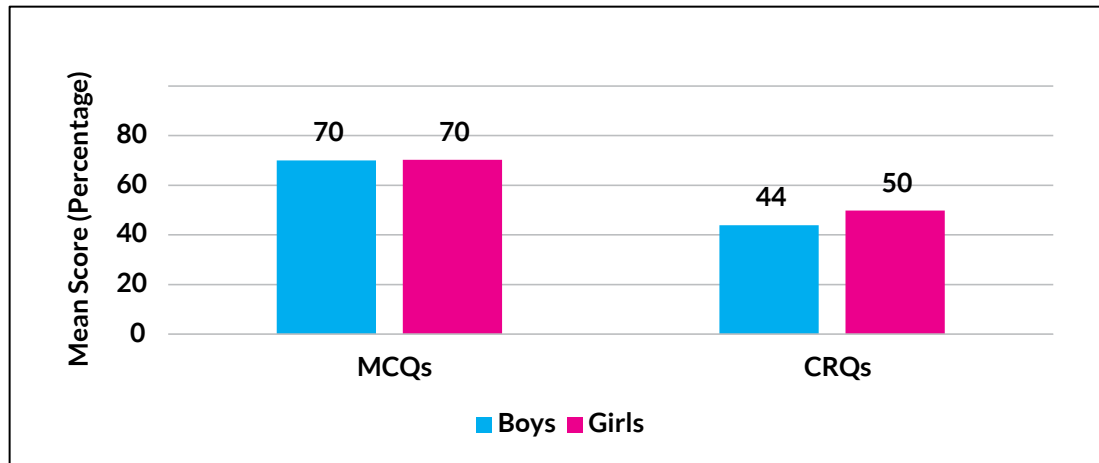


Figure 5: Overall Performance of students by gender on MCQs and CRQs in grade 5

Gender wise overall performance of students in grade 5 on MCQs and CRQs is demonstrated in the Figure 5. On MCQs boys and girls performed equally well while on CRQs girls performed better than boys. It is also shown that both boys and girls performed equally better in the MCQs portion of papers as compared to CRQs.

Subject wise performance of students on MCQs by gender (Grade 5)

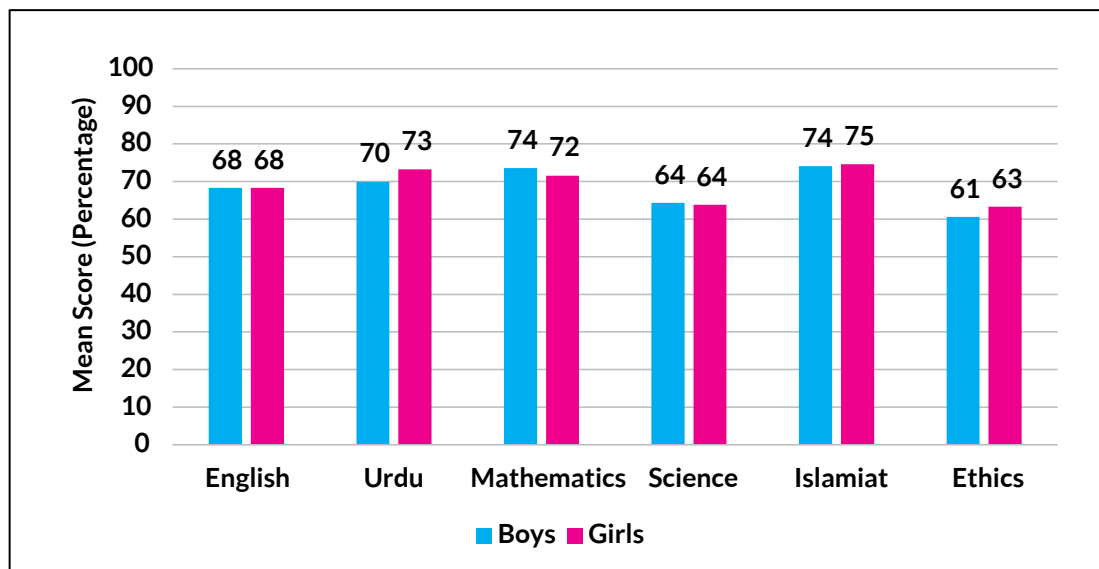


Figure 6: Subject wise performance of students by gender on MCQs in grade 5

Gender wise performance of students in grade 5 on MCQs in all subjects is shown in Figure 6. In MCQs, girls scored higher mean score than boys in the subjects of Urdu, Islamiyat and Ethics. Boys scored higher mean score in the subject of Mathematics than girls. While In MCQs boys and girls scored equal mean percentage in the subjects of English and Science. On the whole boys and girls scored more than 70% mean score in the MCQs type portion in the subjects of Mathematics, Urdu and Islamiyat.

Subject wise performance of students on CRQs by gender (Grade 5)

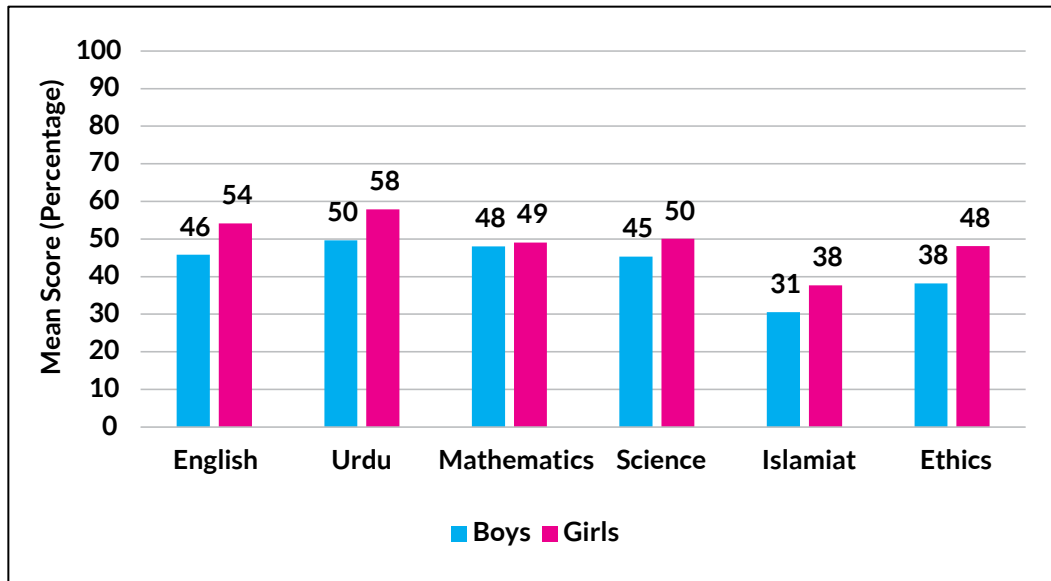


Figure 7: Subject wise performance of students by gender on CRQs in grade 5

Gender wise performance of students in grade 5 on CRQs type paper is represented in Figure 7. On CRQs girls performed better than boys in all subjects. Both boys and girls on CRQs scored higher mean score in the subject of Urdu and lower mean score in the subject of Islamiat than all other subjects.

Overall subject wise performance of students by gender in grade 5

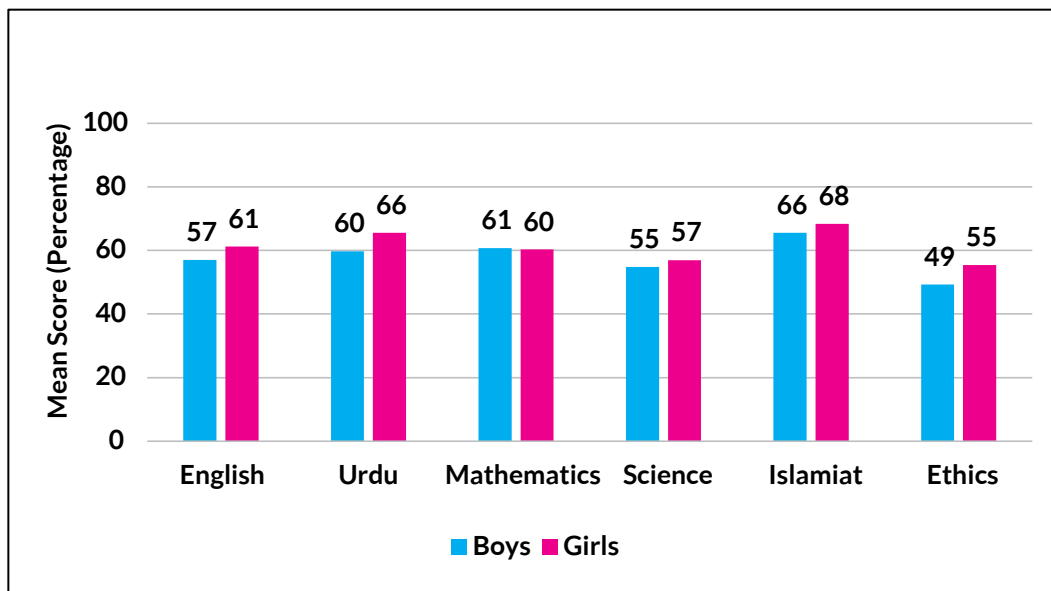


Figure 8: Overall subject wise performance of students by gender in grade 5

Overall gender wise performance of students of grade 5 in all subjects is shown in Figure 8. Girls performed better than boys in all subjects except for Mathematics. Both boys and girls scored highest mean scores in Islamiat and lowest in Ethics.

Subject wise performance of students by type of candidates (Grade 5)

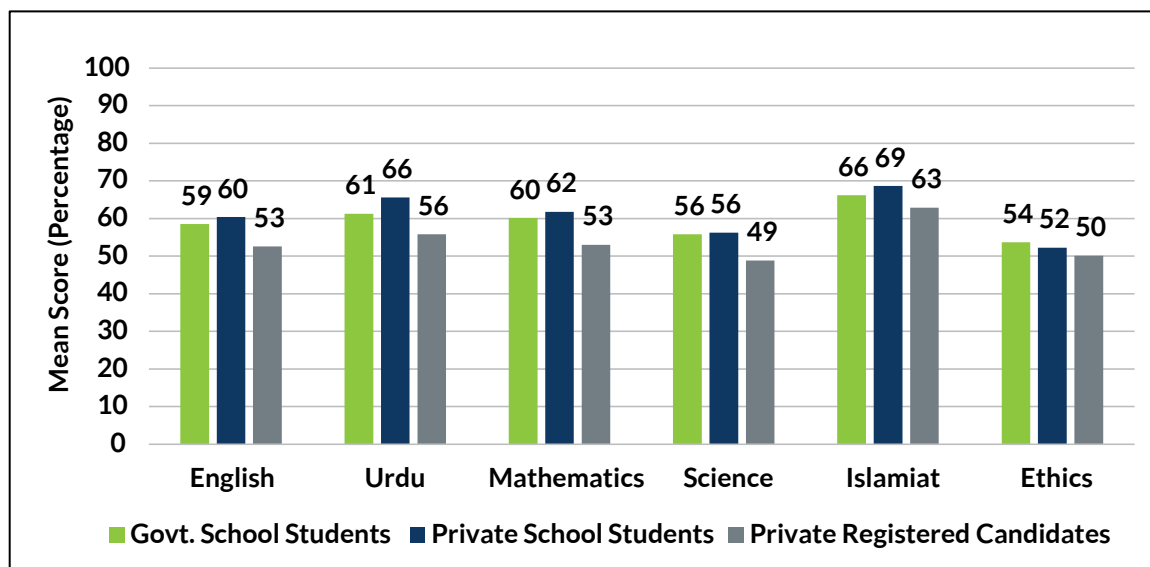


Figure 9: Subject wise performance of students by type of candidates in grade 5

The subject wise performance of students of grade 5 by type of candidates is given in Figure 9. The students from private schools performed better than the students of government schools as well as the private registered candidates in all subjects except for Ethics where the government school students scored the highest. The private registered students scored the lowest mean score in all subjects.

Performance of students by type and gender of candidates (Grade 5)

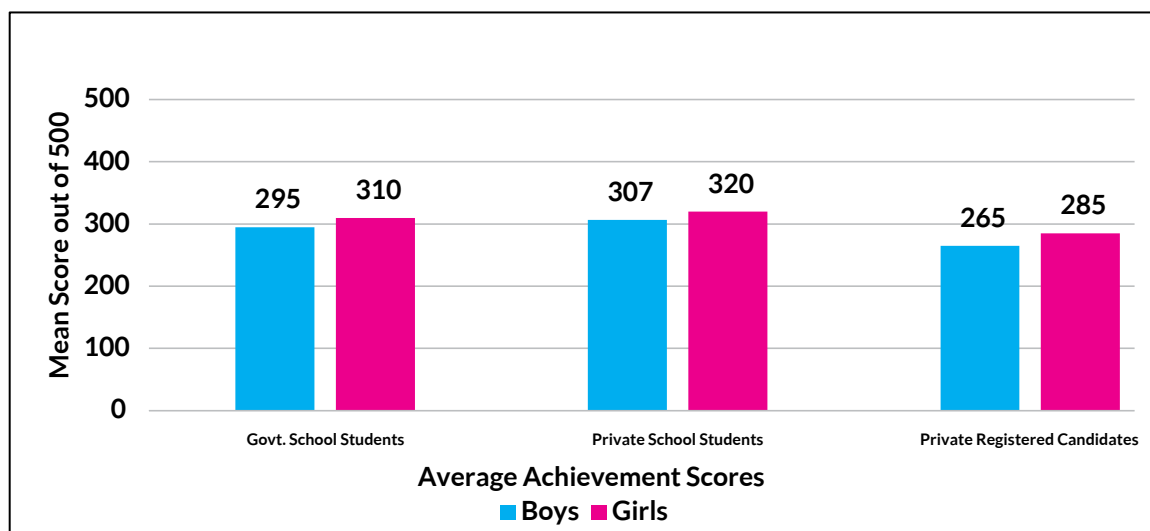


Figure 10: Performance of students by gender and type of candidates in grade 5

The performance of students of grade 5 according to their gender and type of registration in PEC exam 2018 is shown in Figure 10. It is evident that the students of private schools scored higher than the students of public schools and private registered candidates in both genders. The girls of each type of registration performed better than that of the boys. Private registered students could score the lowest in exam.

Overall performance of students by type of candidates (Grade 5)

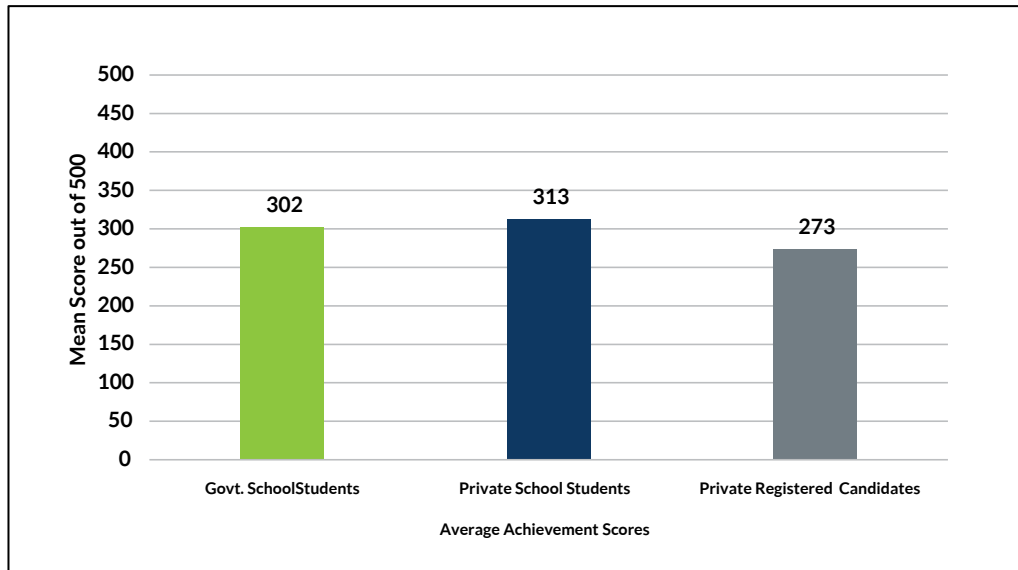


Figure 11: Overall performance of students by type of candidates in grade 5

The average achievement score, out of 500 mean score, of the grade 5 students in PEC exam 2018 by their type of registration is shown in Figure 11. The students of private schools scored higher mean score than the students of public school and private registered candidates enrolled in PEC exams 2018.

Performance of students by language of exam (Grade 5)

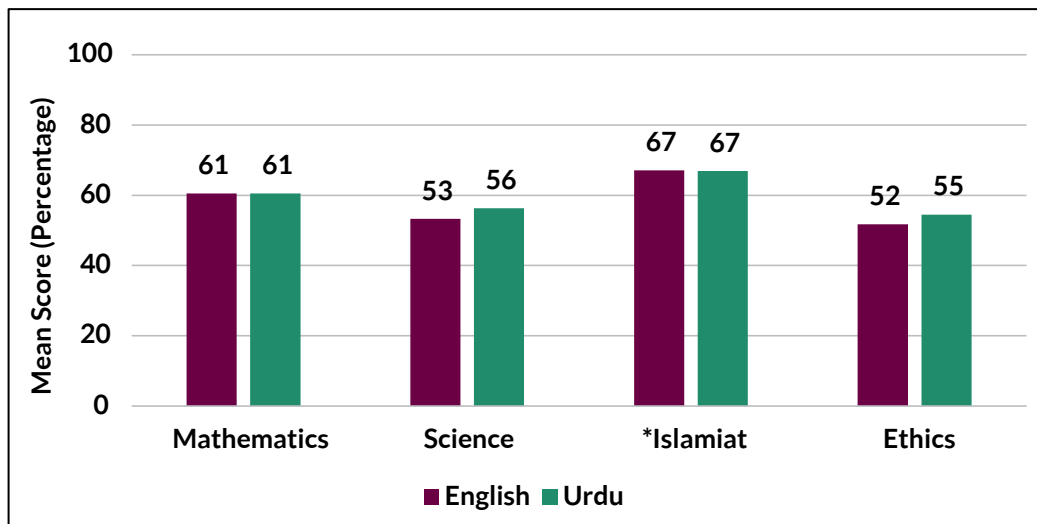


Figure 12: Performance of students by language of exam in grade 5

The performance of students in grade 5 of PEC exam 2018 by language of the paper is shown in Figure 12. The papers of the subjects of Science, Mathematics, Islamiat and Ethics were bilingual to accommodate the students of both Urdu and English medium schools. In the subjects of Science and Ethics students performed relatively better in Urdu version of the paper while in the subjects of Mathematics and Islamiat, students performed equally better in both languages of paper.

Subject wise performance of students by location (Grade 5)

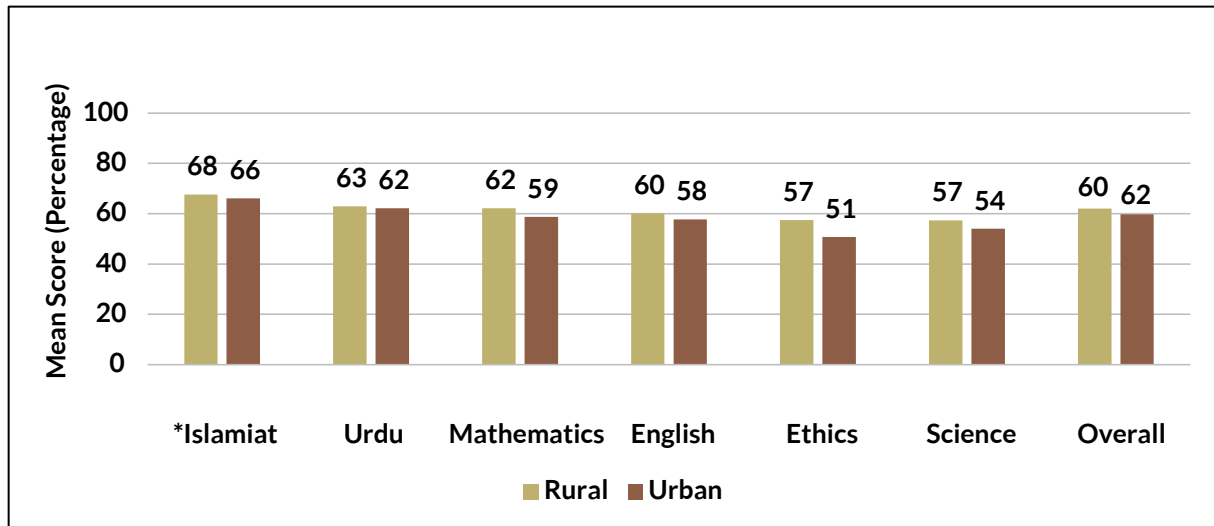


Figure 13: Subject wise performance of students by location in grade 5

The subject wise as well as overall performance of students by their location i.e. rural and urban is shown in the Figure 13. In PEC exam 2018, the students from rural area performed better than the students from urban area in all subjects. Similarly, in overall performance of grade 5 students from rural area scored better mean score percentage i.e. 62% than the students from urban area i.e. 60% mean score.

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

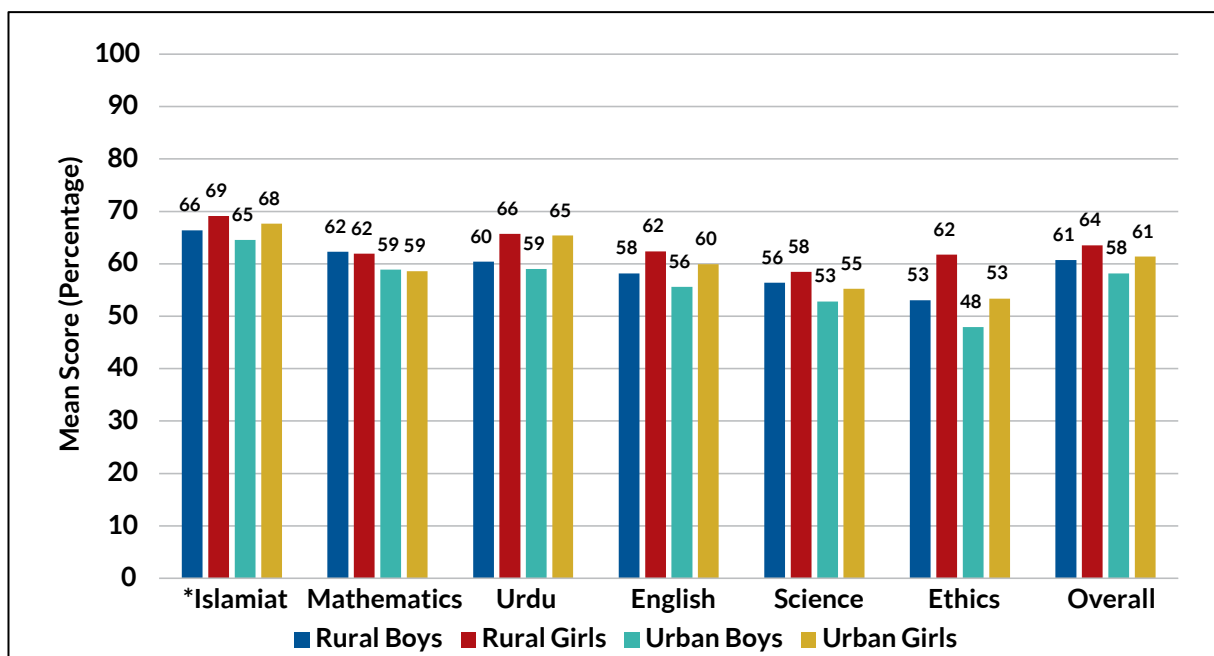


Figure 14: Subject wise performance of students by location and gender in grade 5

The subject wise performance of students by their location and gender in PEC exam 2018 is shown in Figure 14. The graph illustrates that rural girls scored higher mean percentage than urban girls and boys from both locations in all subjects. General trend of performance is girls from urban areas

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

scored second highest percentages in all subjects except for the subjects of Mathematics, Science and Ethics, followed by the boys from rural areas and urban areas. In the subject of Mathematics, both boys and girls students scored equal percentage i.e. 62% and students from urban areas got equal mean score i.e. 59%. Boys from rural areas and girls from urban areas performed equally good and got 53% means score in the subject of Ethics. Overall, girls from rural areas outperformed followed by boys from rural areas and girls from urban areas. The boys from urban areas could score lowest in all the subjects as well as in overall performance.

Gender and location wise performance of students on MCQs (Grade 5)

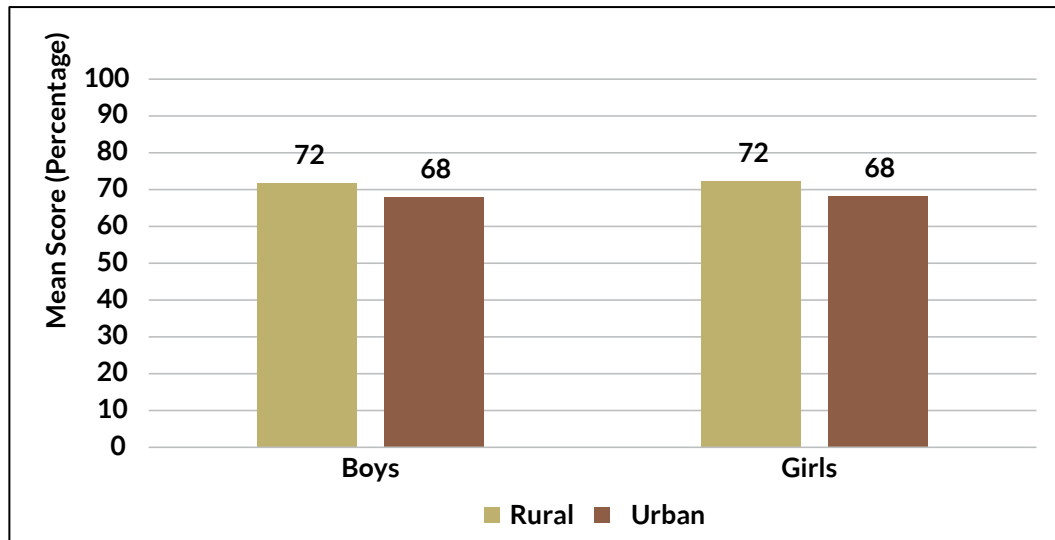


Figure 15: Overall performance of students by gender and location on MCQs in grade 5

The gender and location wise performance of students of grade 5, on MCQs and CRQs is shown in Figure 15 and Figure 16 respectively. The students from rural areas performed better than the students from urban areas on MCQs. In CRQs, girls from both rural and urban areas scored better than the boys of both locations.

Gender and location wise performance of students on CRQs (Grade 5)

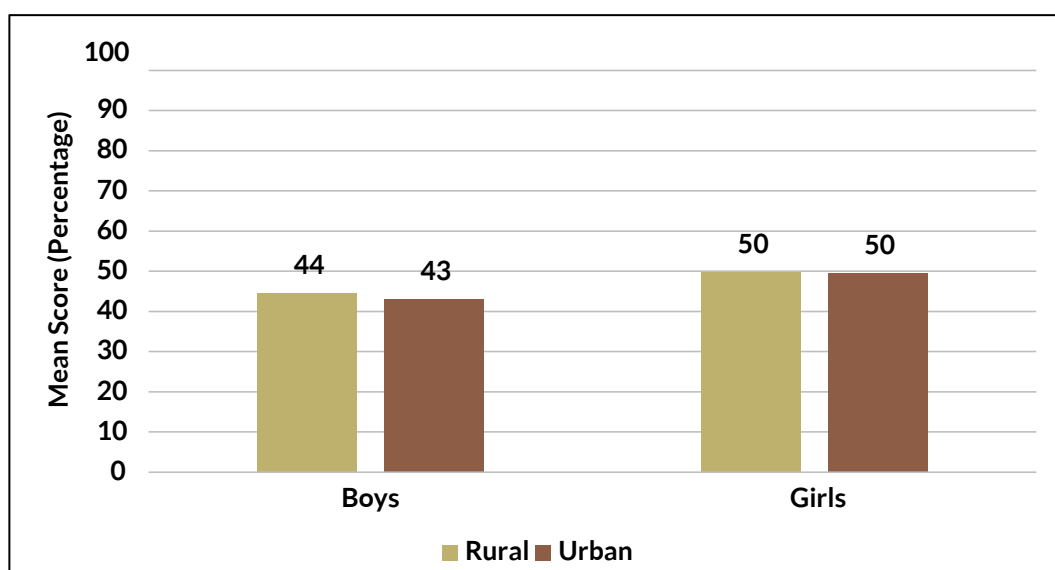


Figure 16: Overall performance of students by gender and location on CRQs in grade 5

Distribution Curves (Grade 5)

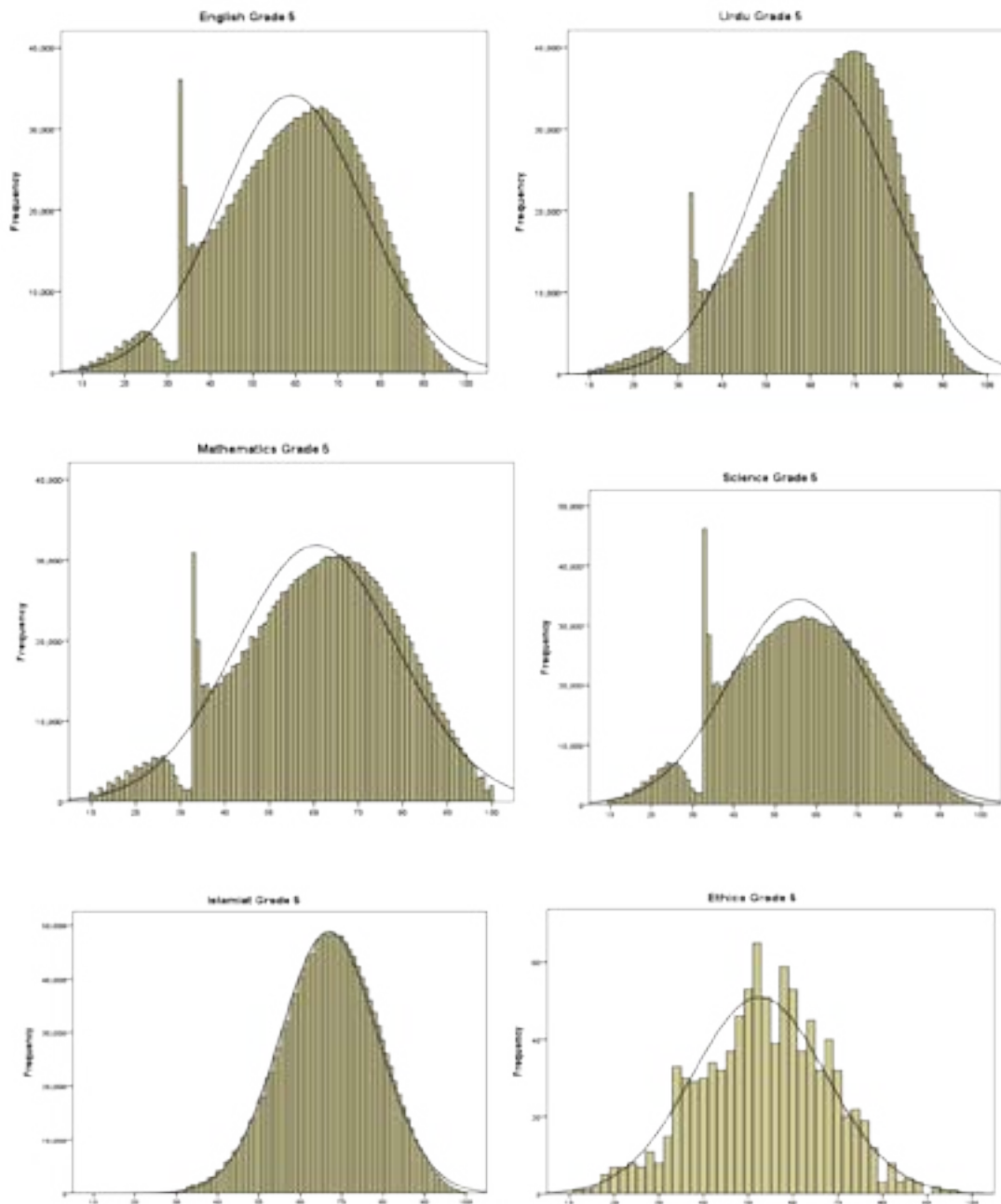


Figure 17: Distribution curves for all subjects of grade 5

The above given distribution curves show the population based analysis of grade 5 students in all subjects in PEC exams 2018. More the curve is raising on right side of the graphs indicates better performance of students in that subject as shown in the subjects of Urdu and Islamiyat. In the subjects of English, Mathematics and Science the peak of curve is formed in the middle of x-axis that means the performance of students in these subjects is average. The peaks around 33 % shows that there are a number of students who passed around 33%. The distribution curve for the subject of Ethics is relatively scattered but still forming a bell shape illustrates that the number of students attempted the paper of Ethics is much less than that of other subjects.

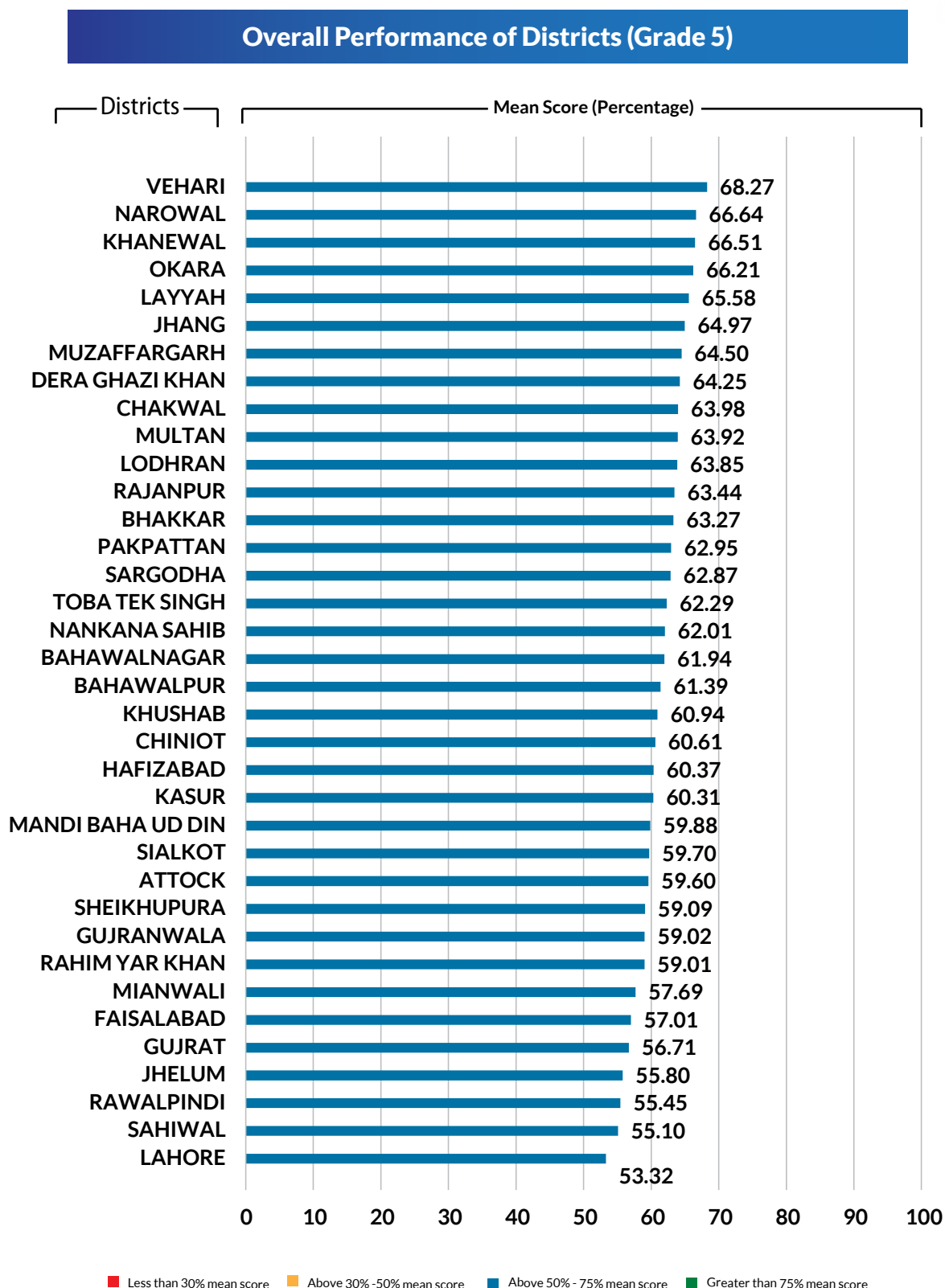


Figure 18: Overall district wise performance of students in grade 5

The overall performance of students of grade 5 in PEC exams 2018 is shown in Figure 18. Vehari scored first position in all 36 districts of Punjab with 68.27% mean score. While the districts Narowal, Khanewal, Okara and Layyah achieved 66.64%, 66.51%, 66.21% and 65.58% mean score. The five least scoring districts in grade includes Gujrat, Jhelum, Rawalpindi, Sahiwal and Lahore with 56.71%, 55.80%, 55.45%, 55.10% and 53.32% mean scores respectively. Overall, all 36 districts scored more than 50% of mean score.

Performance of Districts in English

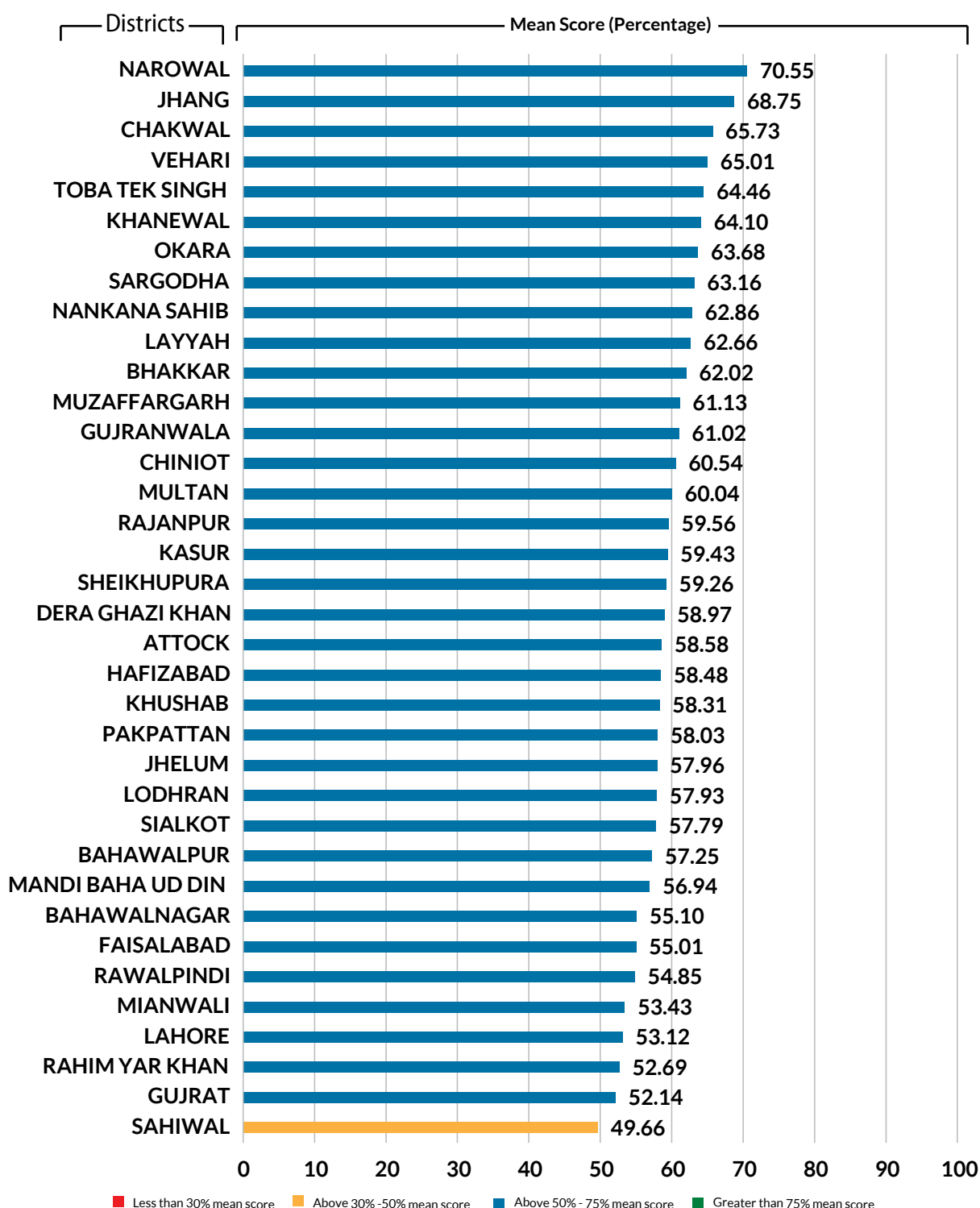


Figure 19: District-wise performance of students in English in grade 5

In Grade 5, the district Narowal achieved highest mean score i.e. 70.55% while the district Sahiwal scored the lowest mean score i.e. 49.66% in the subject of English. Out of 36 districts of Punjab, 15 districts scored more than 60.0% mean score. Figure 19 indicates that in the subject of English almost all districts scored at least 50% mean score.

Performance of Districts in Urdu

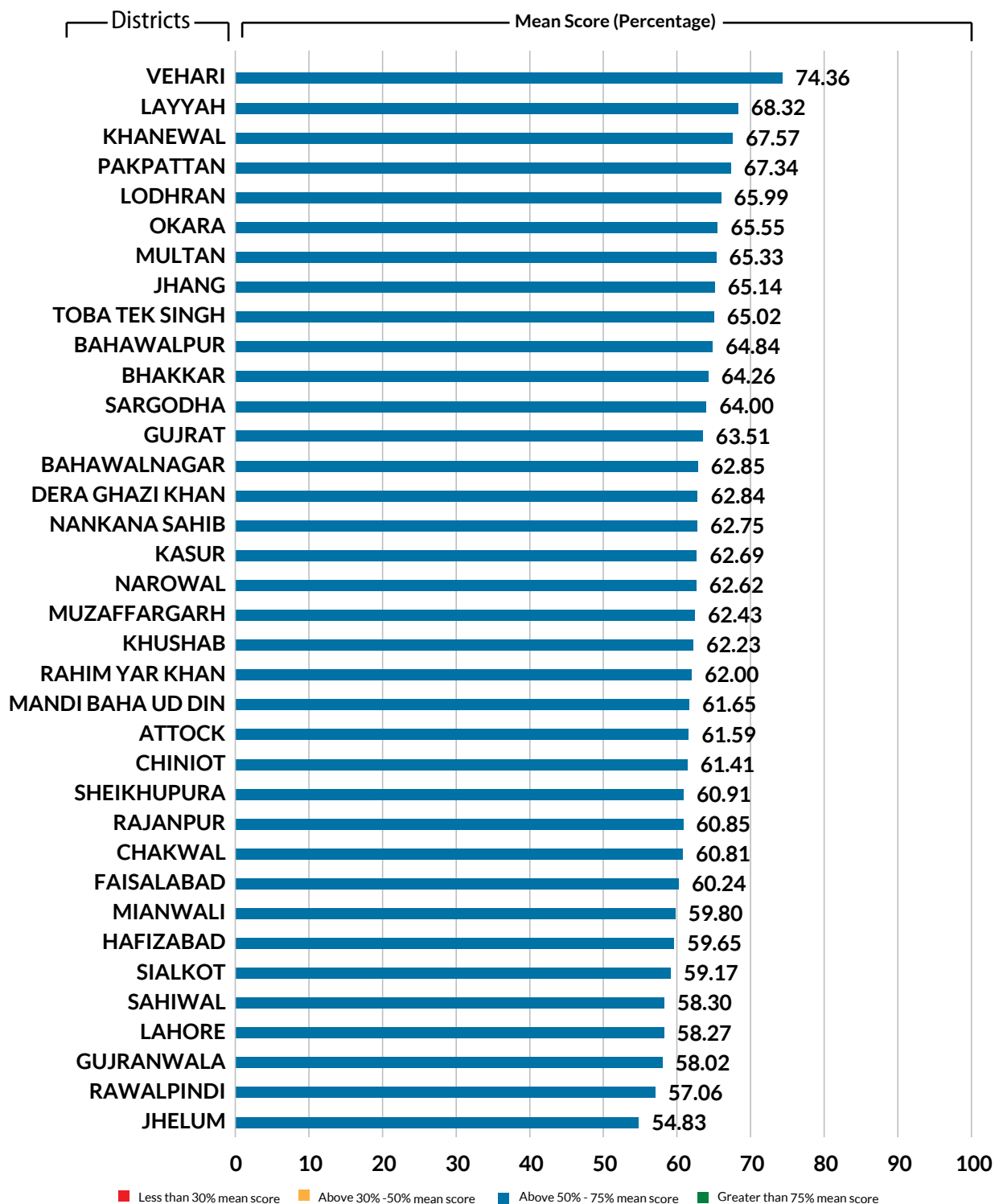


Figure 20: District-wise performance of students in Urdu in grade 5

The Vehari was the highest mean score achiever district in the subject of Urdu with 74.36% while the district Jhelum with 54.83% mean score was the lowest mean score achiever in Grade 5 as shown in Figure 20. Layyah, Khanewal and Pakpattan achieved 68.32%, 67.57% and 67.34% mean score. 28 districts out of 36 districts scored more than 60.0% mean score in the subject of Urdu.

Performance of Districts in Mathematics

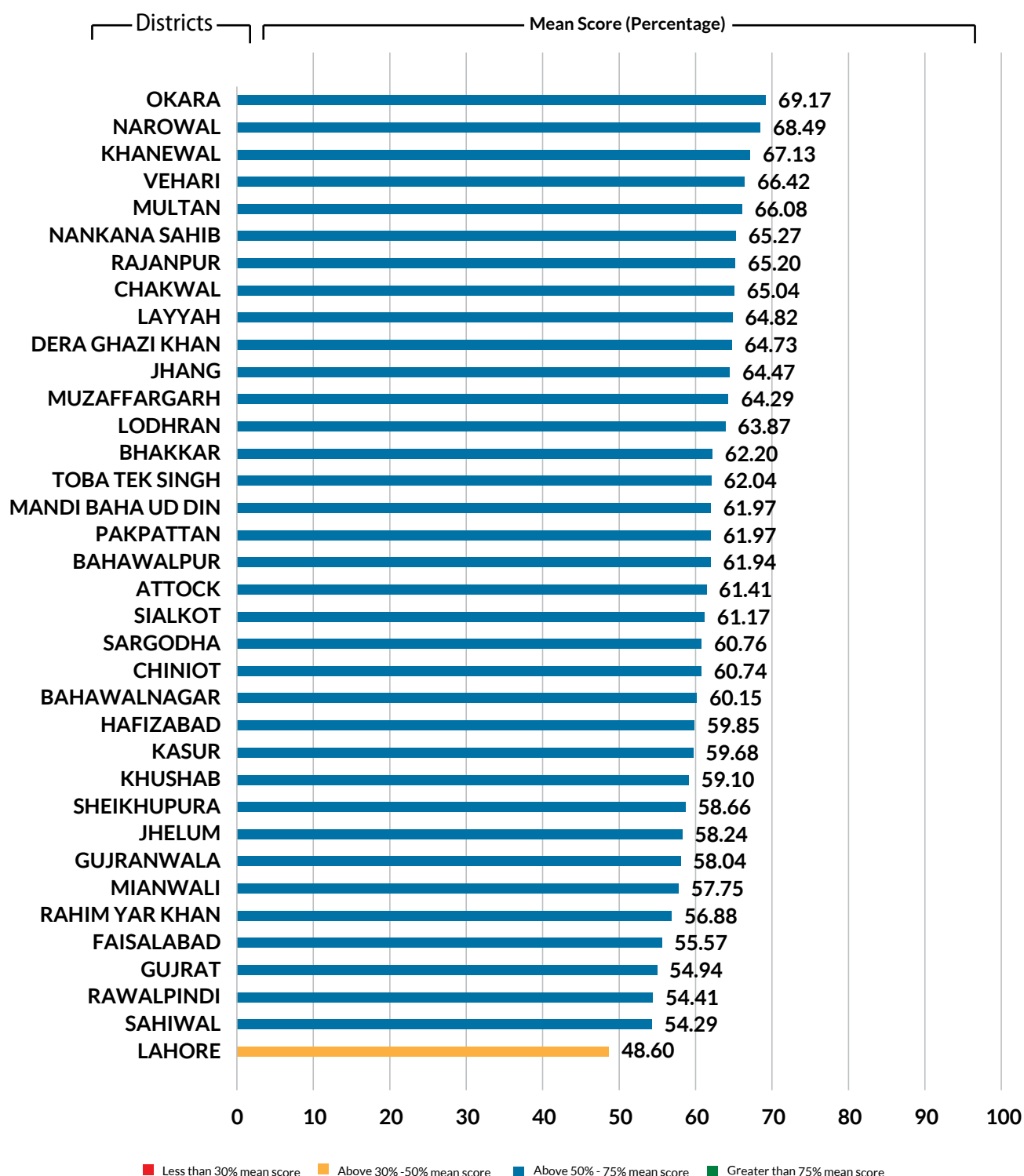


Figure 21: District-wise performance of students in Mathematics in grade 5

Figure 21 illustrates that in the subject of Mathematics the highest mean score was achieved by the district Okara i.e. 69.17% in Grade 5 PEC Exam 2018. Narowal, Khanewal, Vehari and Multan achieved 68.49%, 67.13%, 66.42% and 66.08% mean score. 23 districts scored more than 60.0 % mean score in this subject. The low performing districts in the subject of Mathematics include Faisalabad (mean score= 55.57%), Gujrat (mean score= 54.94%), Rawalpindi (mean score = 54.41%), Sahiwal (mean score= 54.29%) and Lahore (mean score = 48.60%) in grade 5.

Performance of Districts in Science

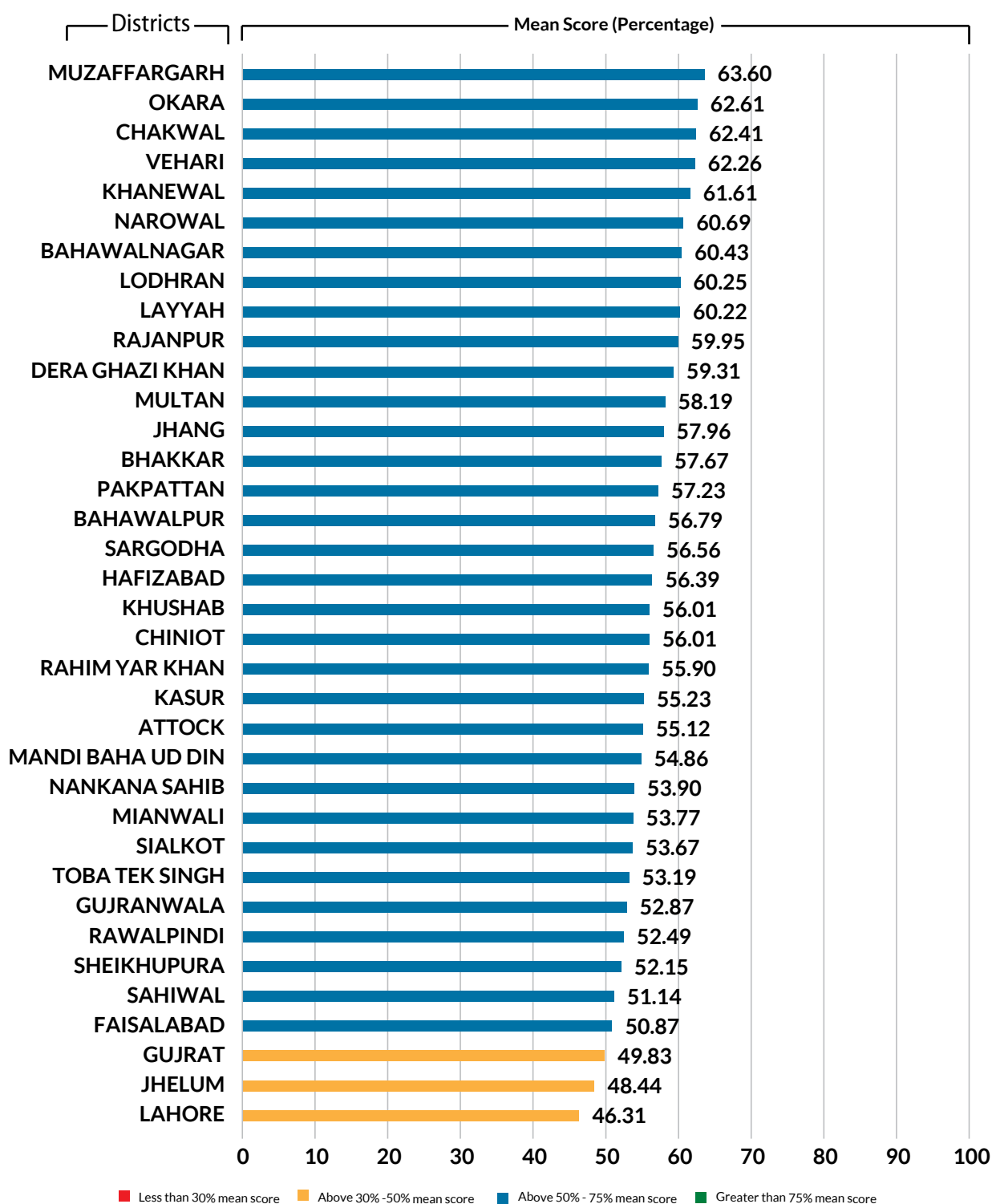


Figure 22: District-wise performance of students in Science in grade 5

In PEC exam 2018, the high scoring districts for the subject of Science in grade 5 are Muzaffargarh, Okara, Chakwal, Vehari and Khanewal with 63.60%, 62.61%, 62.41%, 62.26% and 61.61% mean score. While the low achieving districts in the same subject are Sahiwal, Faisalabad, Gujrat, Jhelum and Lahore with 51.14%, 50.87%, 49.83%, 48.44% and 46.31% mean score respectively.

Performance of Districts in Islamiyat

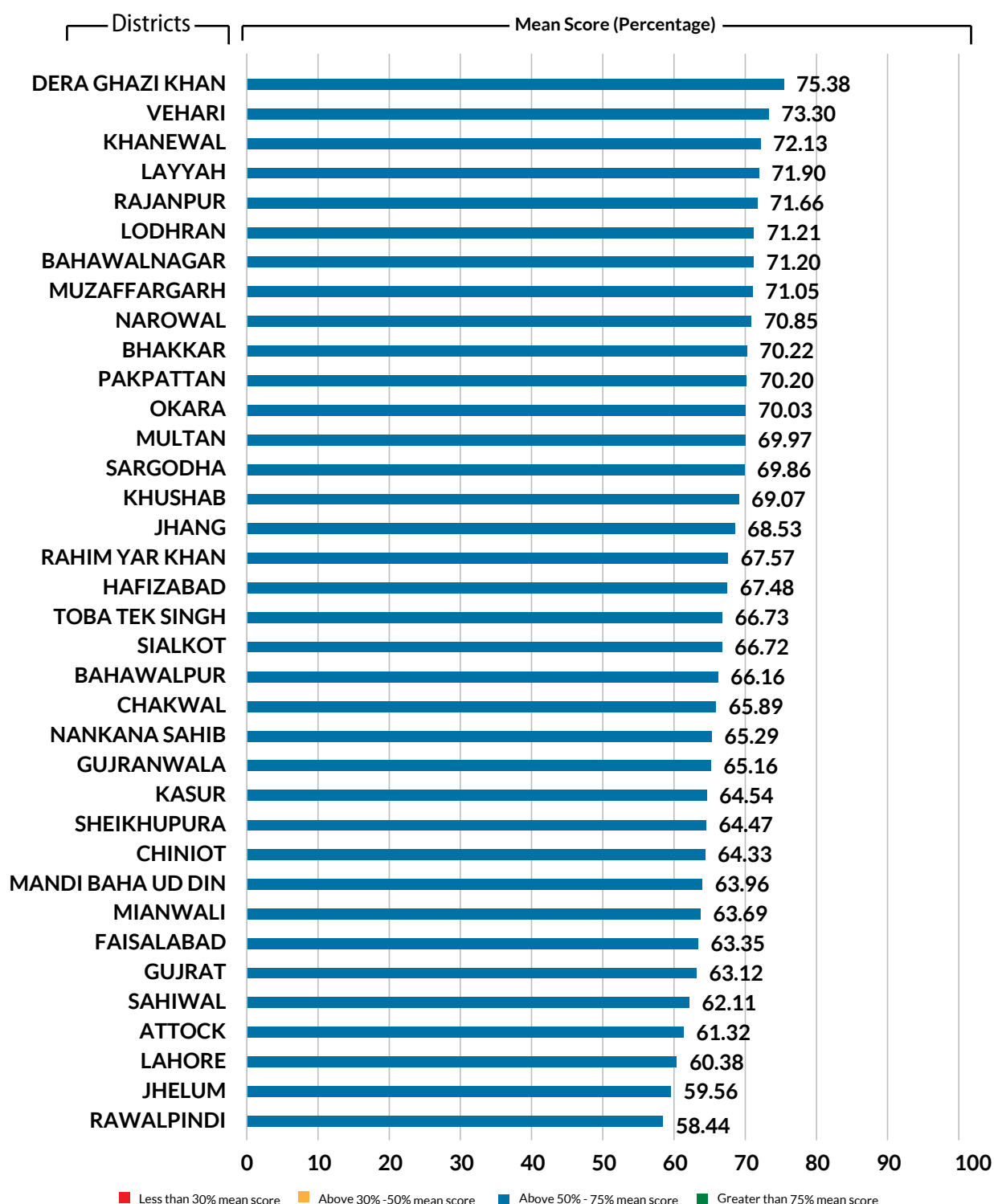


Figure 23: District-wise performance of students in Islamiyat in grade 5

In Grade 5 the students of the district DERA GHAZI KHAN achieved the highest mean score in the subject of Islamiyat (i.e. 75.38%) as shown in Figure 23 above. 12 districts could score more than 70% mean score while only two districts were below 60.0% mean score. It must be noted here that in the subject of Islamiyat the marks for Nazra portion of Holy Quran are included in the mean score.

Performance of Students in Grade 8

The performance of grade 8 students in PEC exams 2018 is given below.

Key Findings of Grade 8

- Overall students performed better in the subjects of Islamiyat (including performance in Nazra portion of Holy Quran) and Urdu while lowest in Science and Mathematics with mean percentage score more than 50% in each subject.
- Students performed better on MCQs with mean score ranging from 68% to 83% than CRQs with mean score ranging from 35% to 68%.
- In different versions of exams; the performance of students in all versions of the subjects was almost same except for Mathematics which means the difficulty level was nearly same in all subjects.
- On MCQs the performance of boys was better in the subjects of English, Mathematics and Science while in other subjects girls scored more mean percentage score. On CRQs girls performed exceptionally better than boys in all subjects.
- By the type of candidates the performance of private school students was better than the students of public school in all subjects. Means score of private registered candidates was least in all subjects.
- The language of exams had minimal effect on the performance of students. In the subjects of Mathematics and Islamiyat students performed better in the English version of the exam. In Science students performed slightly better in the Urdu version of exam. While in Ethics the students performed equally in both language.
- Location wise performance of students from rural areas was better than the students from urban areas in all subjects. The girls performed better than the boys in both localities

Performance of Students across the Subjects in Grade 8

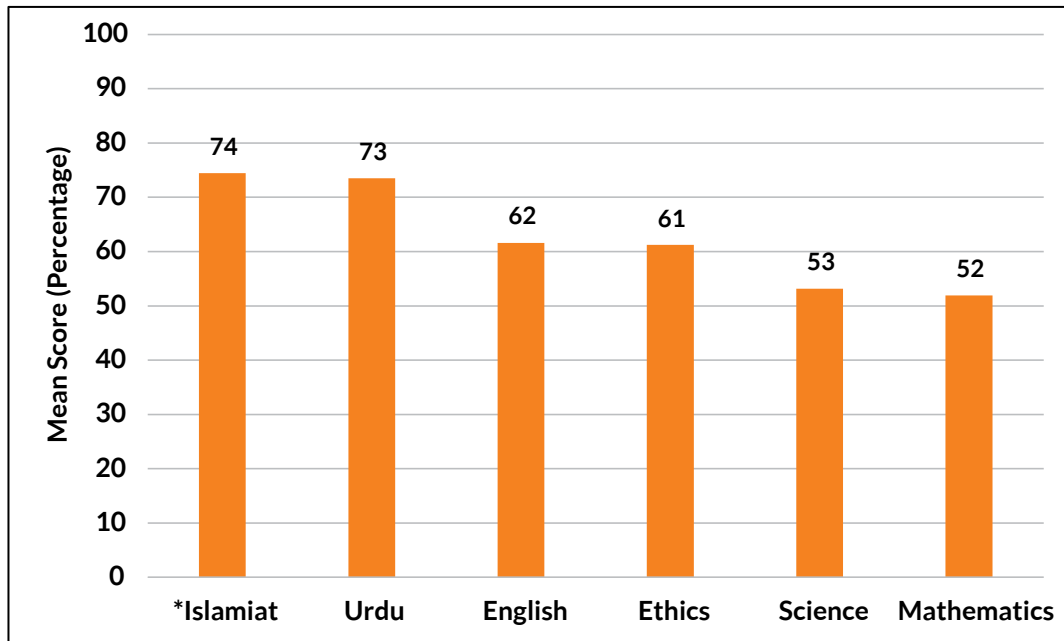


Figure 24: Performance of Students across the Subjects in Grade 8

Figure 24 shows the subject wise overall performance of students in grade 8. Students scored highest mean score percentage in Islamiyat and Urdu while lowest in Mathematics. However, mean score percentage ranged between 52% and 74% in all subjects

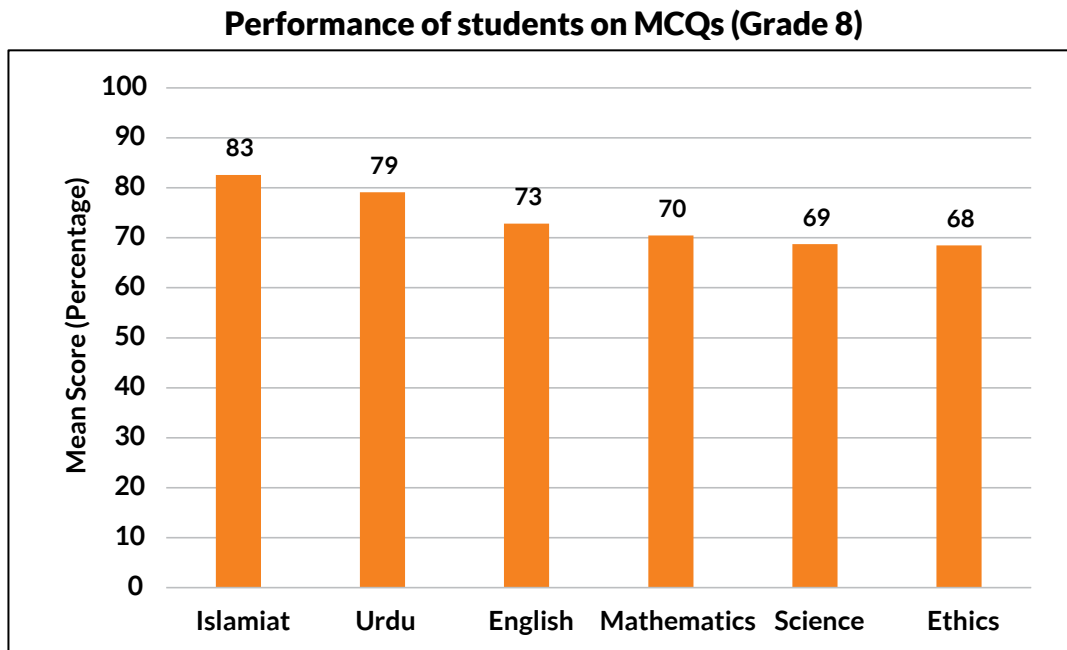


Figure 25: Subject wise performance of students on MCQs in grade 8

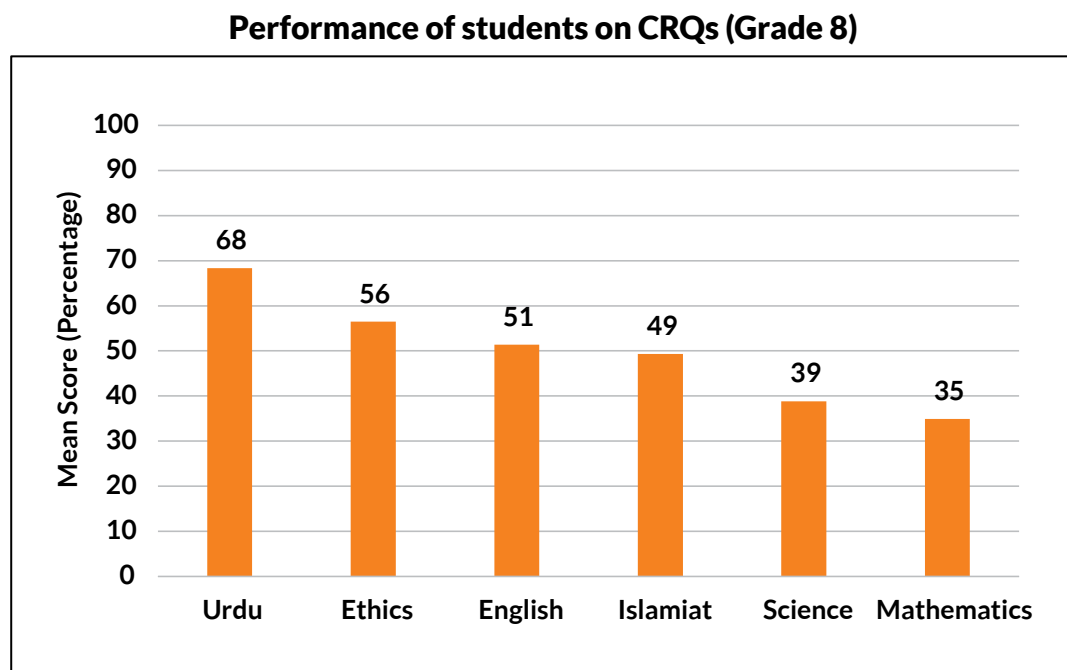


Figure 26: Subject wise performance of students on CRQs in grade 8

The subject wise performance on MCQs (objective type paper) and CRQs (subjective type paper) is shown in Figure 25 and Figure 26 respectively. In MCQs candidates scored highest mean score in Islamiyat i.e. 83% while lowest in Science and Ethics i.e. 69% and 68% respectively. In CRQs highest scoring subject was Urdu i.e. 68% and lowest scoring subject was Mathematics i.e. 35% mean score. Overall, students performed better on MCQs (mean score ranged between 68% and 83%) as compared to CRQs (mean score ranged between 35% and 68%).

Performance of students by paper versions (Grade 8)

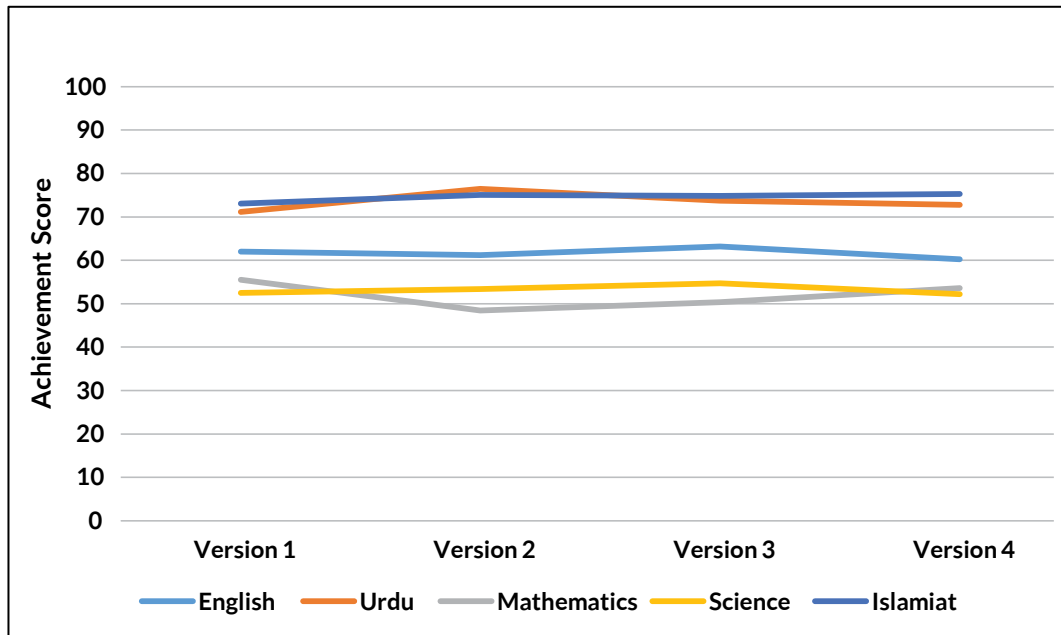


Figure 27: Performance of students by paper versions in grade 8

The students of grade 8 performed almost similar in all version as shown in Figure 27, which means that all versions prepared for the subjects of English, Urdu, Mathematics, Science and Islamiat were similar in difficulty and cognitive level.

Performance of students by gender on MCQs and CRQs (Grade 8)

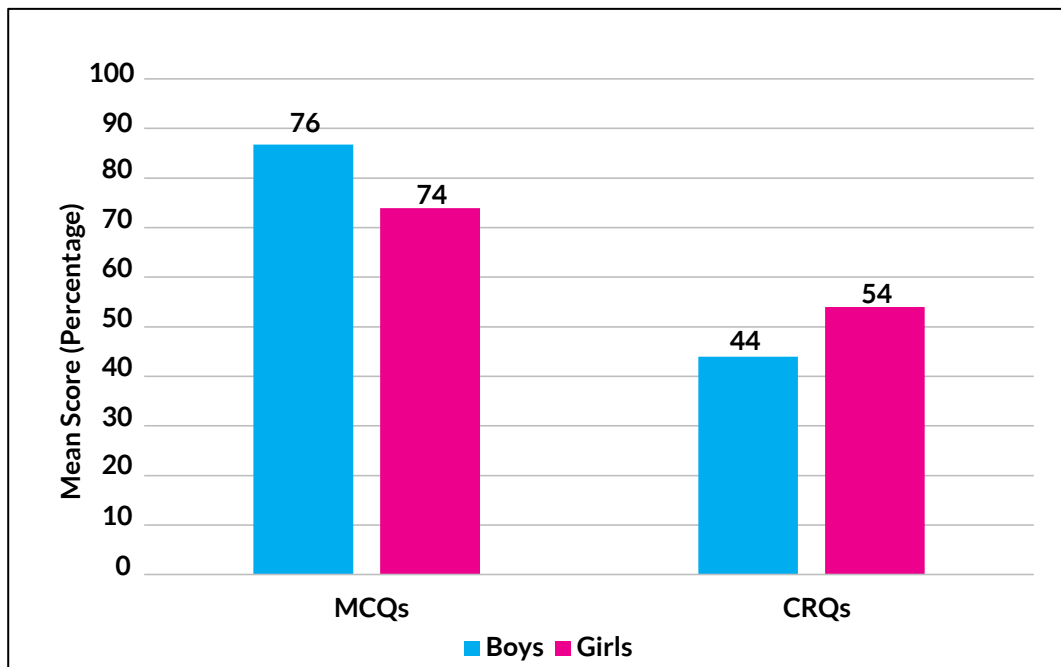


Figure 28: Overall Performance of students by gender on MCQs and CRQs in grade 8

Figure 28 shows the performance of boys and girls on MCQs and CRQs in grade 8. Boys performed slightly better than girls on MCQs while girls performed better on CRQs. Overall, boys and girls scored higher in MCQs as compared to CRQs.

Subject wise performance of students on MCQs by gender (Grade 8)

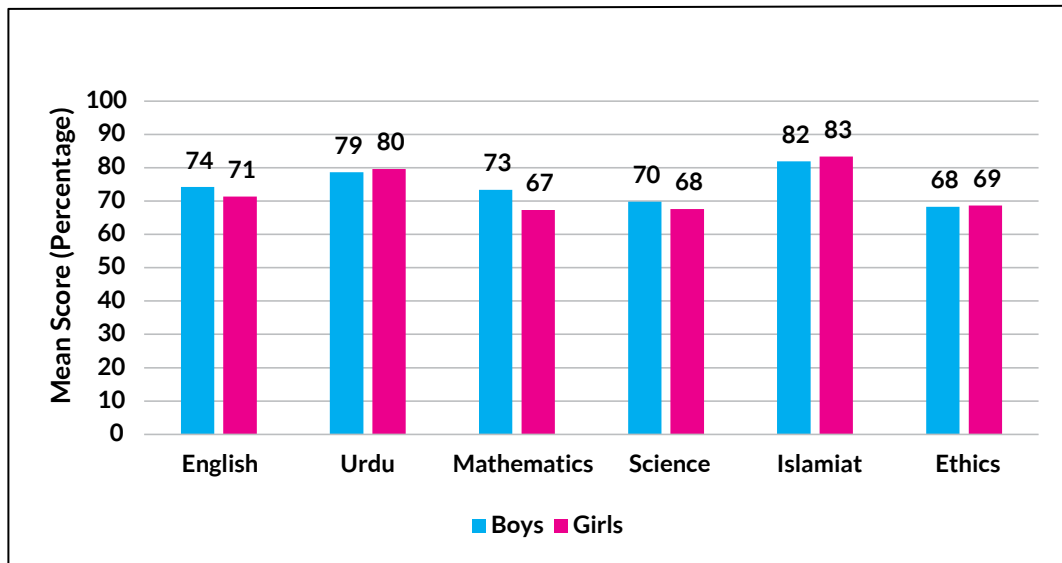


Figure 29: Subject wise performance of students by gender on MCQs in grade 8

Subject wise performance of students on CRQs by gender (Grade 8)

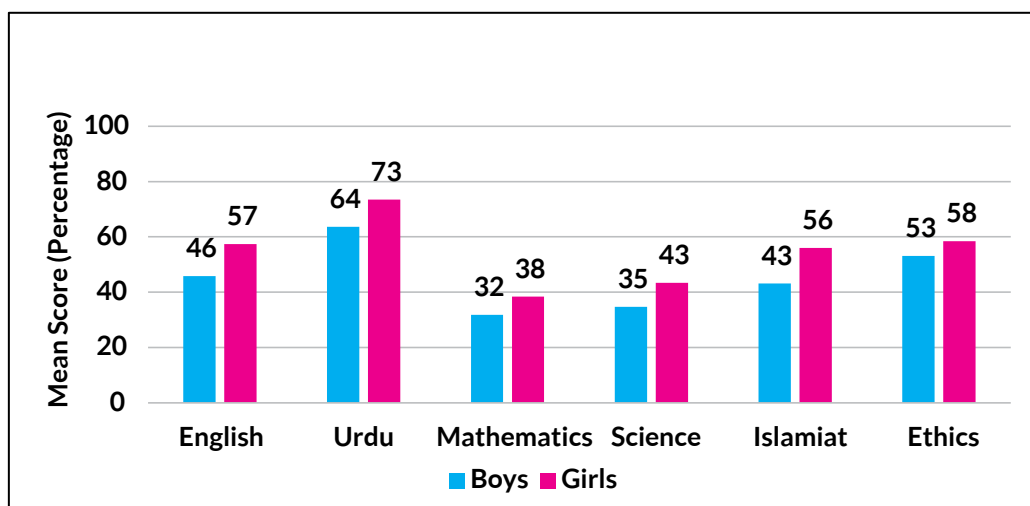


Figure 30: Subject wise performance of students by gender on CRQs in grade 8

Subject wise performance of boys and girls on MCQs and CRQs is illustrated in Figure 29 and Figure 30 respectively. In MCQs section, boys scored higher than girls in the subjects of English, Mathematics and Science while girls scored higher in the subjects of Urdu, Islamiat and Ethics. Both boys and girls scored highest in the subject of Islamiat. In CRQs section, girls outperformed and scored higher than boys in all subjects. Both boys and girls achieved highest mean score in CRQs of the subject of Urdu.

Overall subject wise performance of students by gender in grade 8

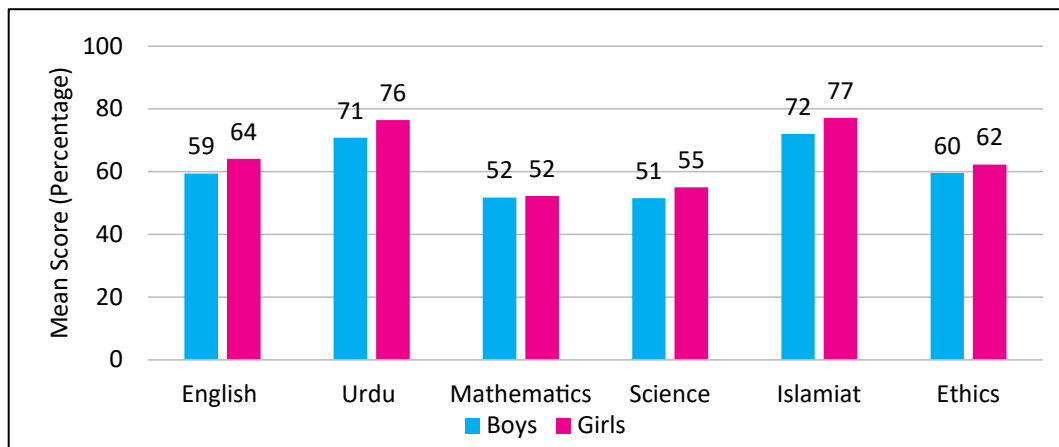


Figure 31: Overall subject wise performance of students by gender in grade 8

Gender wise overall performance of students in all subjects of grade 8 is shown in Figure 31. The graph is illustrating that boys and girls performed better and achieved mean score more than 70% in the subjects of Islamiyat and Urdu. Girls scored higher than boys in all subjects except for Mathematics in which both boys and girls achieved equal mean percentage score. In all subjects of grade 8 both boys and girls attained more than 50% mean score.

Subject wise performance of students by type of candidates in grade 8

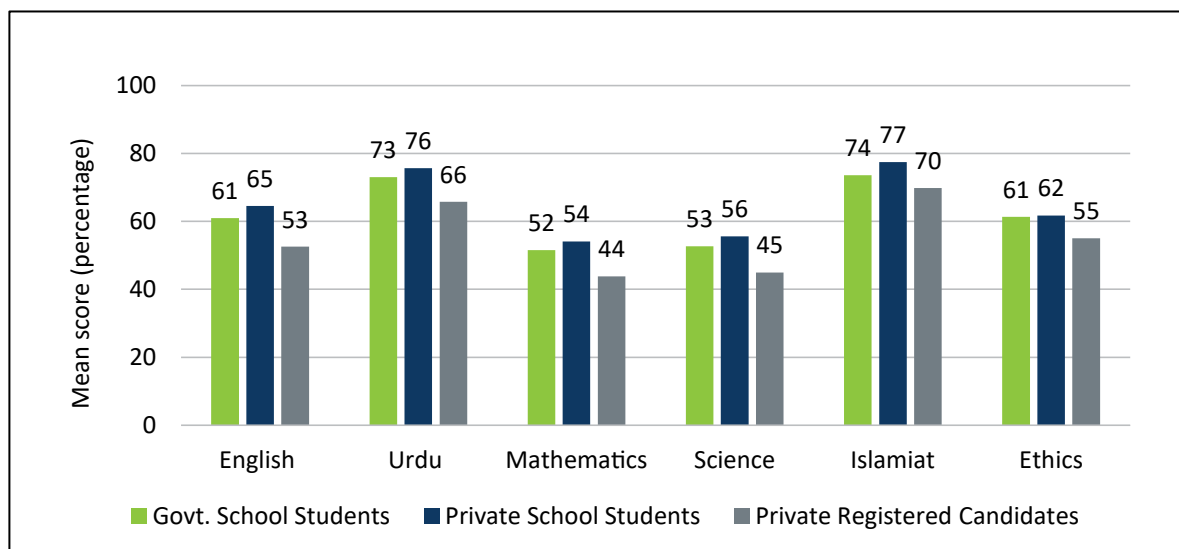


Figure 32: Subject wise performance of students by type of candidates in grade 8

Subject wise performance of students by the type of candidates i.e. Govt. school students, private school students and private registered candidates appeared in exam 2018 is graphed in Figure 32. Private school students achieved higher mean score in all subjects than Govt. school students and private registered candidates. The private registered candidates scored lowest mean percentage in all subjects.

Overall subject wise performance of students by gender (Grade 8)

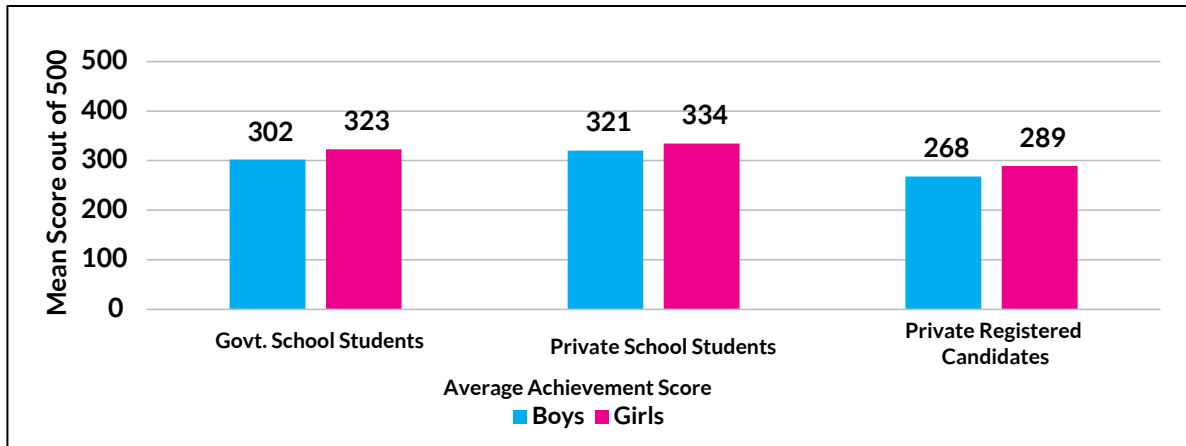


Figure 33: Performance of students by gender and type of candidates in grade 8

Performance of students by type and gender of candidates in grade 8 is shown in Figure 33. The students from private schools scored highest mean score than students from government schools and private registered candidates. It is noted here that girls performed better than boys in every type of candidates.

Overall performance of students by type of candidates in grade 8

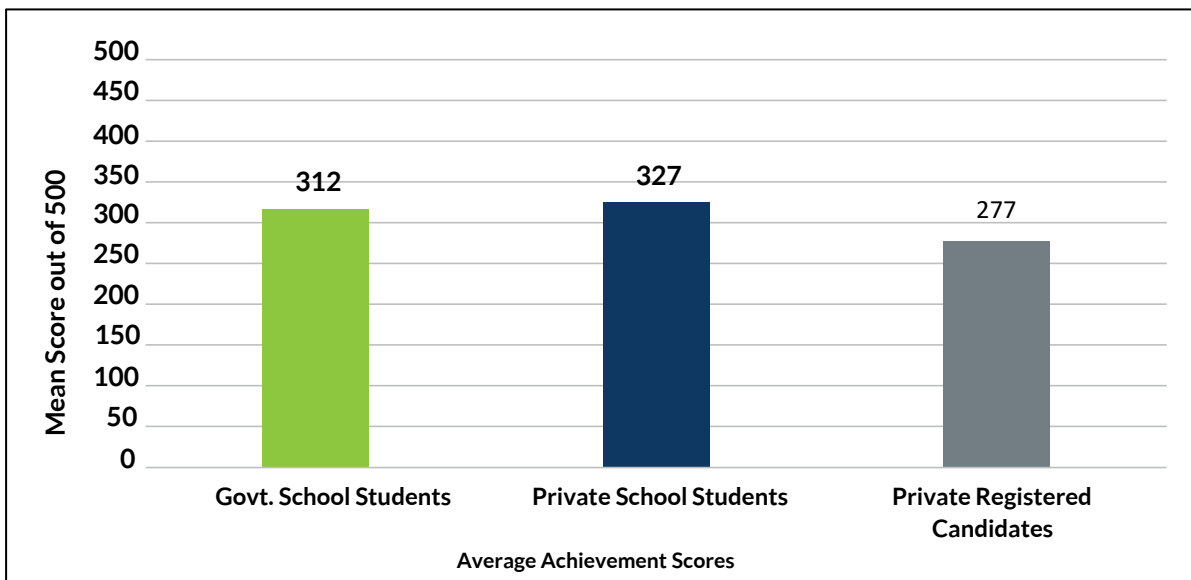


Figure 34: Overall performance of students by type of candidates in grade 8

Figure 34 represents the overall performance of students by the type of candidates in grade 8. The students from private schools (327 mean score out of 500) outperformed the students from the govt. schools (312 mean score out of 500) as well as the private registered candidates (277 mean score out of 500).

Performance of students by language of exam in grade 8

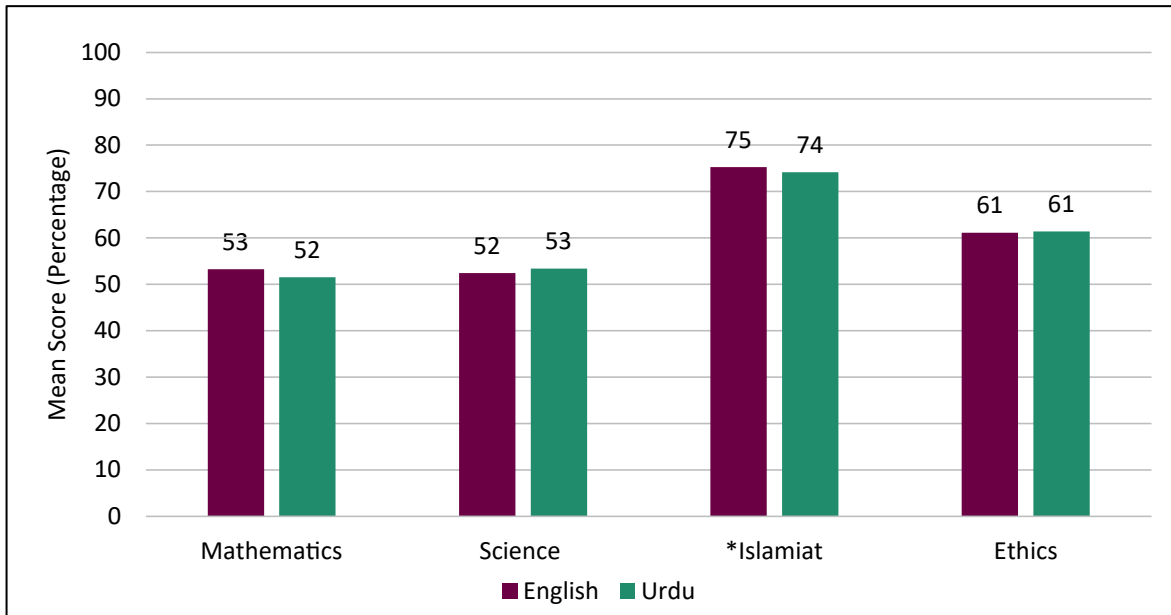


Figure 35: Performance of students by language of exam in grade 8

The performance of students of grade 8 in bilingual exams is shown in Figure 35. It is evident that there is only a minute difference in mean score of students in the subjects of Mathematics, Science and Islamiyat. Students scored one point higher in the English version of Mathematics and Islamiyat while in the subject of Science students scored one point higher in Urdu version of exam paper.

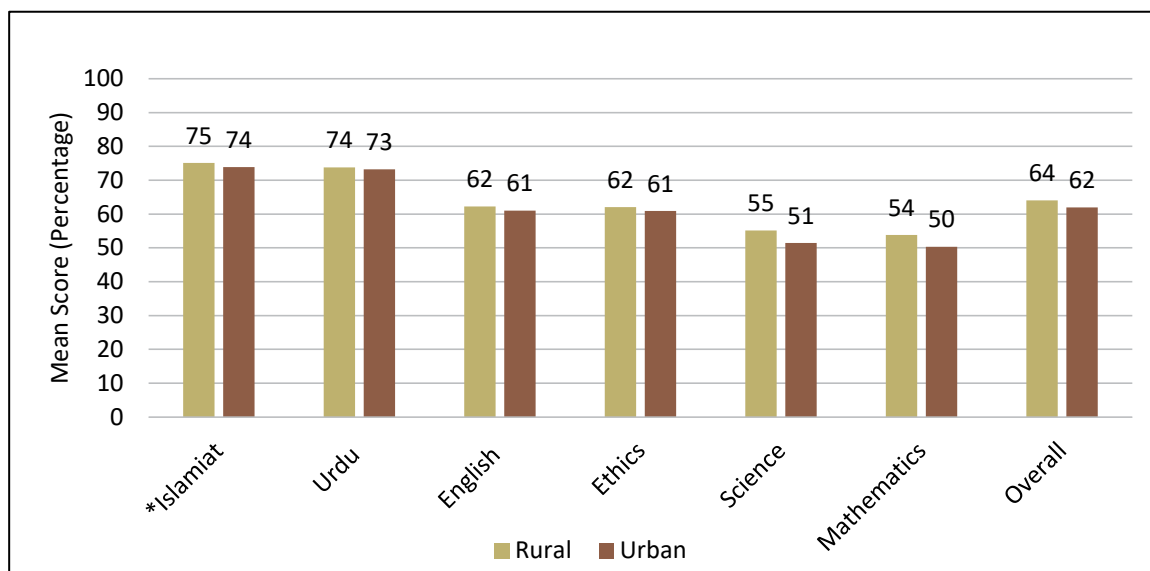


Figure 36: Subject wise performance of students by location in grade 8

Location wise performance of students in grade 8 is shown in Figure 36. In all subjects as well as overall students from rural areas performed better than students from urban areas. There is little difference in the mean score of students from rural and urban areas in the subjects of Islamiyat, Urdu, English and Ethics. In the subjects of Mathematics and Science the students from rural areas performed 4% better in each subject.

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

Subject wise performance of students by location and gender in grade 8

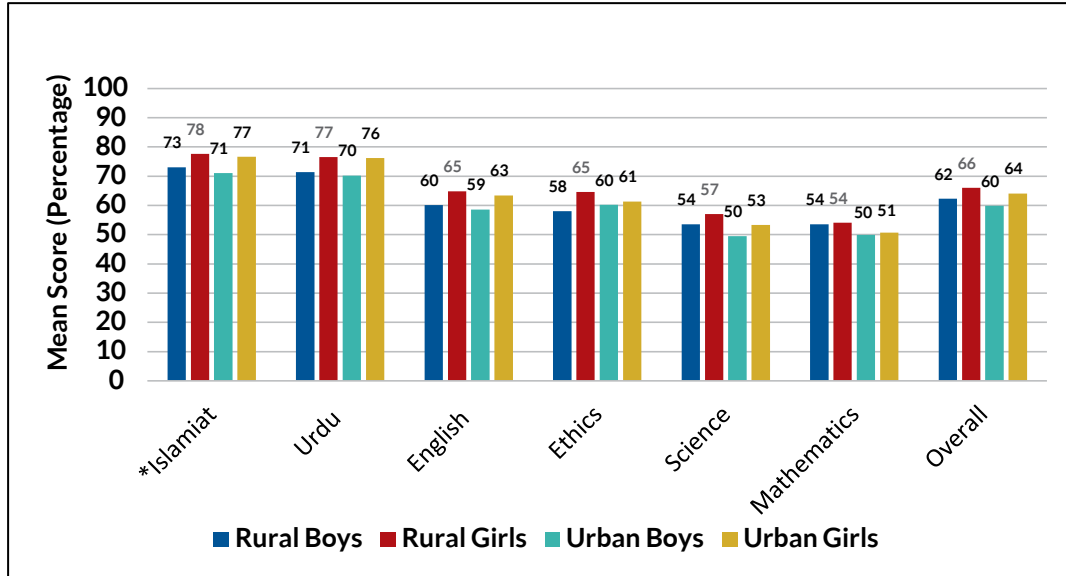


Figure 37: Subject wise performance of students by location and gender in grade 8

The performance of students of grade 8 by location and gender is described in Figure 37. From the graph above this is clear that girls performed better than boys in all subjects. The rural girls outperformed in all subjects as well as in overall performance. Urban girls achieved better mean score than the boys of urban and rural areas. Rural boys performed better than urban boys in all subjects except for Ethics. In general, students from rural areas performed better than urban students in all subjects.

Overall performance of students by gender and location on MCQs in grade 8

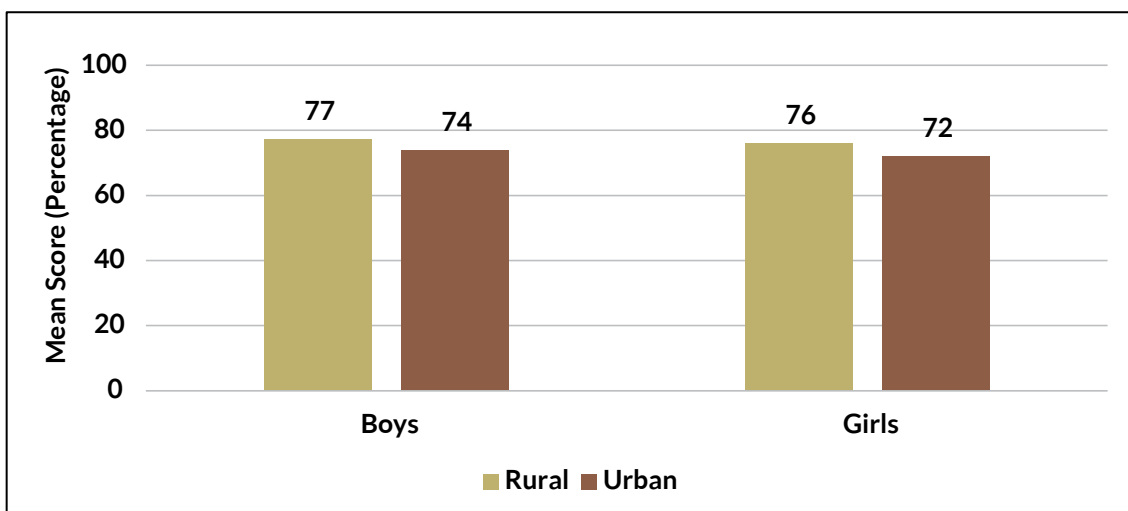


Figure 38: Overall performance of students by gender and location on MCQs in grade 8

Figure 38 denotes that rural boys and girls achieved better mean score percentage i.e. 77% and 76% respectively than the boys and girls from urban areas i.e. 74% and 72% respectively in MCQs in grade 8. In general, boys performed better than girls on MCQs type paper.

Overall performance of students by gender and location on MCQs in grade 8

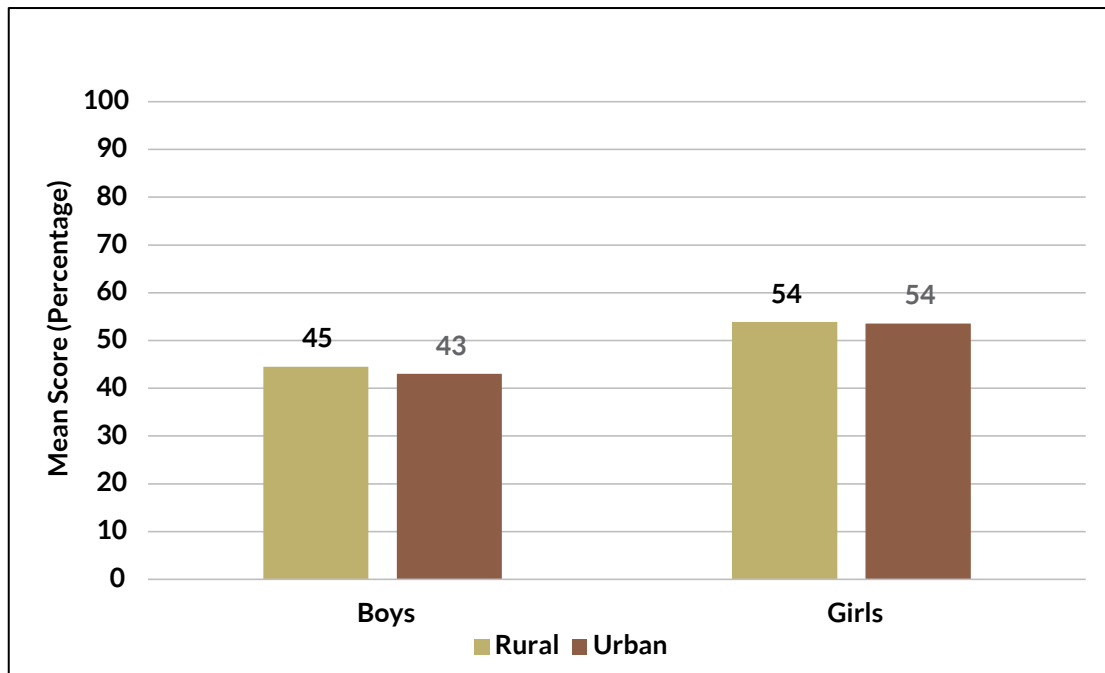


Figure 39: Overall performance of students by gender and location on CRQs in grade 8

Overall location wise performance of boys and girls on CRQs in grade 8 is represented in Figure 39. Girls from both urban and rural areas achieved higher mean score (i.e. 54% each) than the boys from urban (i.e. 43%) and rural (i.e. 45%) areas.

Distribution Curves (Grade 8)

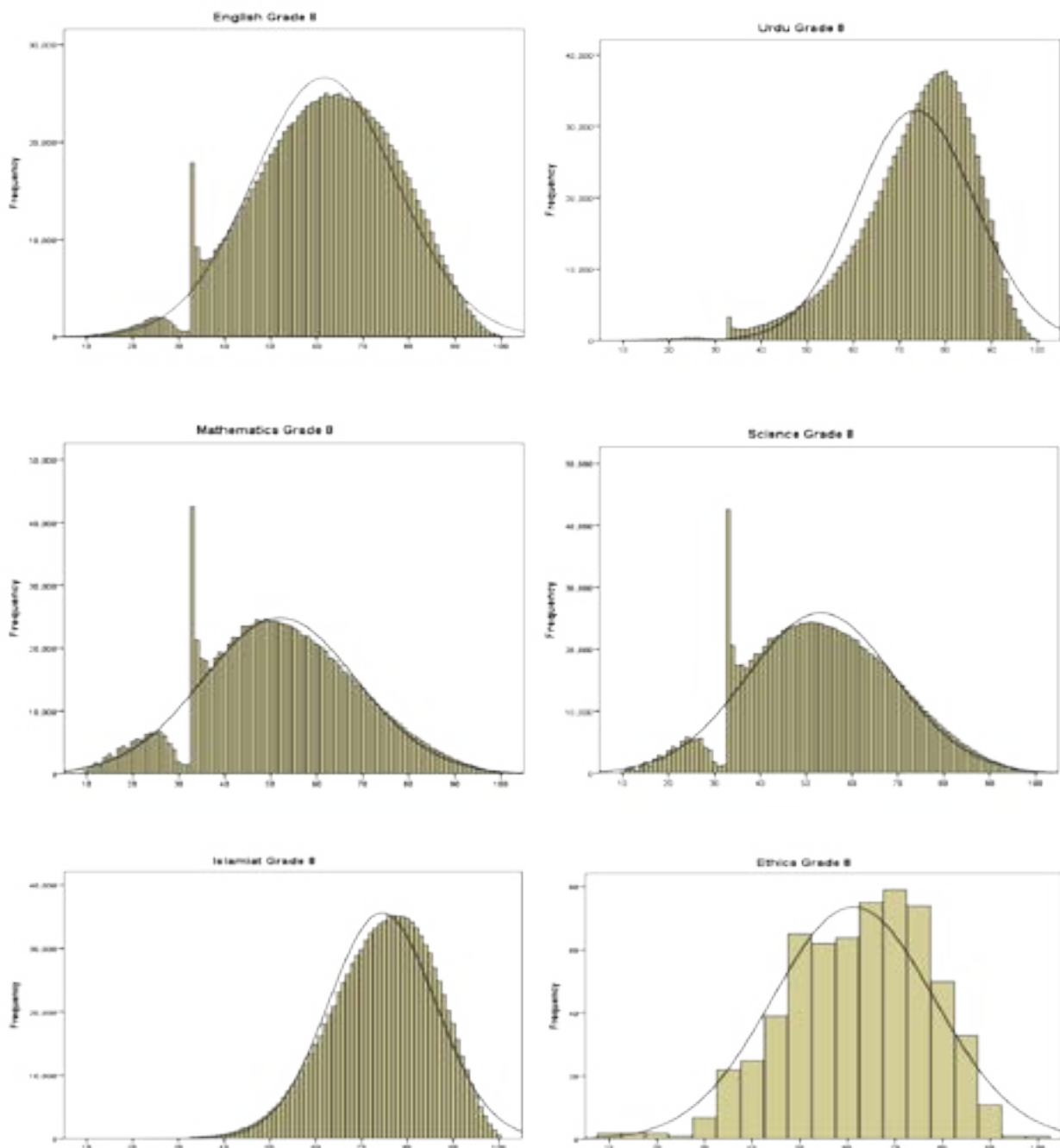


Figure 40: Distribution curves for all subjects of grade 8

The above given distribution curves show the population based analysis of grade 8 students in all subjects in PEC exams 2018. If the curve takes a sharp vertical rise towards the right as in the case of Urdu and Islamiyat indicates that students are performing better in these subjects. In the subjects of English, Mathematics and Science the peak of curve is formed in the middle of x-axis that means the performance of students in these subjects is average. It is noted that in the same subjects as well as in the subject of Urdu there is a peak formed between 30 to 40 percent which means frequency of students passed in this range is high. In the subjects of Ethics there is a regular bell formed showing the more students could get mean score between 55% and 65%.

Overall Performance of Districts (Grade 8)

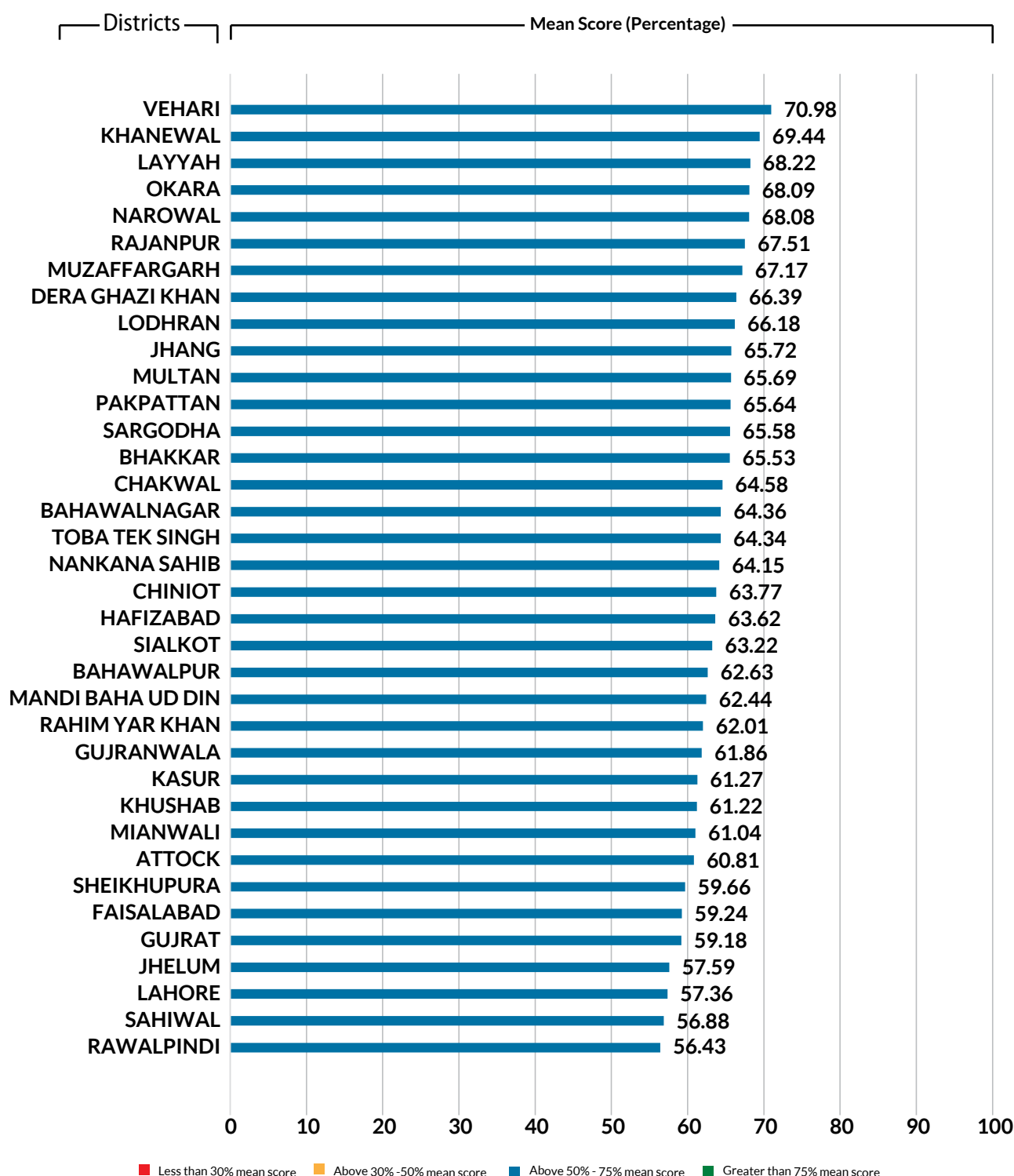


Figure 41: Overall district wise performance of students in grade 8

In PEC exam 2018 the district wise performance of students ranged between 70.98% and 56.43%. The district Vehari scored top position with 70.98 % mean score while the district Rawalpindi scored least mean score i.e. 56.43% in overall performance of students of grade 8. It is noted that 29 out of 36 districts scored more than 60.0% mean score and while other 7 districts achieved more than 55% mean score as shown in Figure 41.

Performance of Districts in English

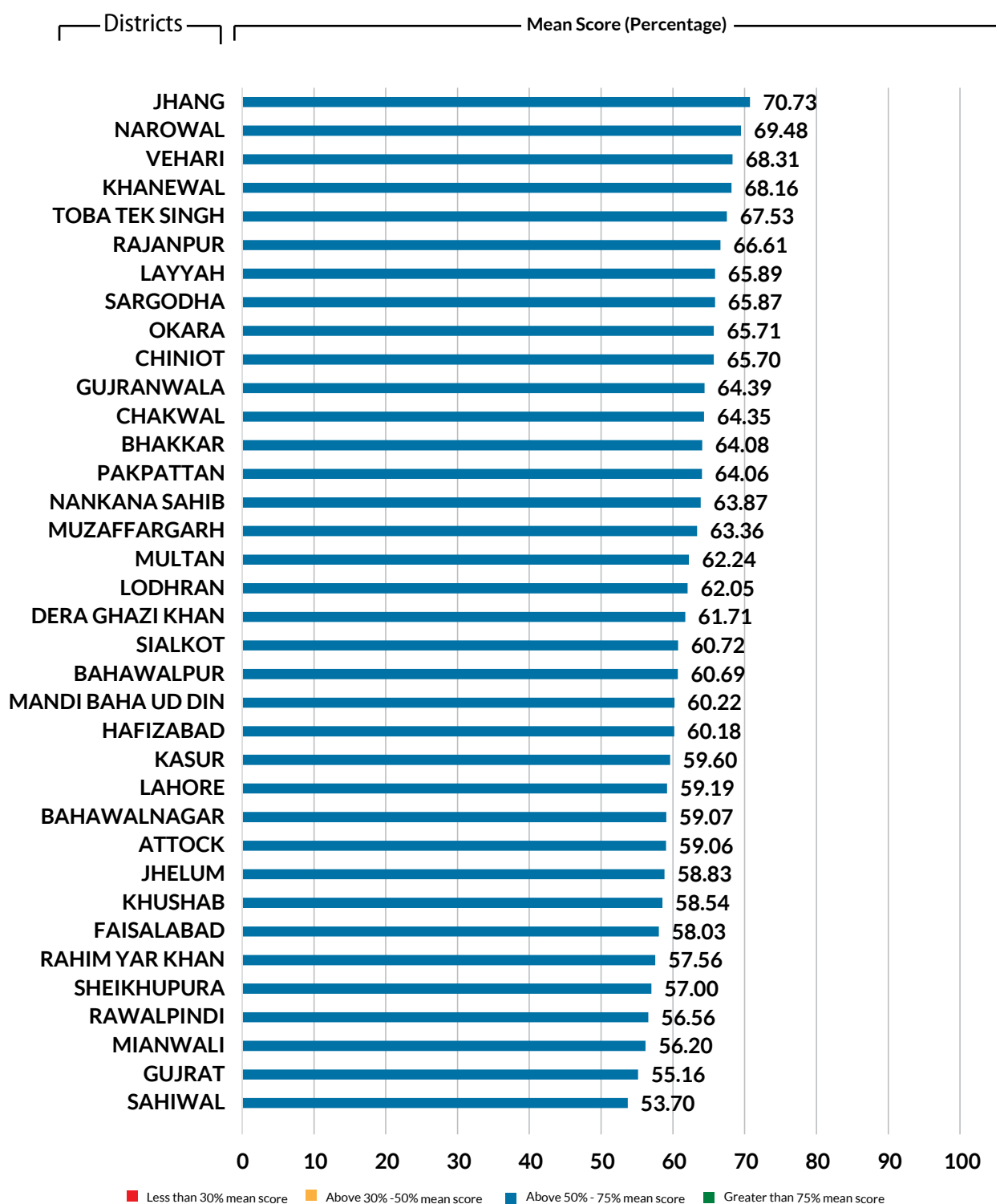


Figure 42: District-wise performance of students in English in grade 8

Figure 42 represents the district wise performance of students of grade 8 in the subject of English. Jhang, Narowal, Vehari, Khanewal and Toba Tek Singh were the top five districts with 70.73%, 69.48%, 68.31%, 68.16% and 67.53% mean score respectively. Sheikhupura, Rawalpindi, Mianwali, Gujrat and Sahiwal with 57.00%, 56.56%, 56.20%, 55.16% and 53.70% mean score respectively were among the least scoring districts in the subject of English. Overall, all the districts achieved more than 50% of mean score.

Performance of Districts in Urdu

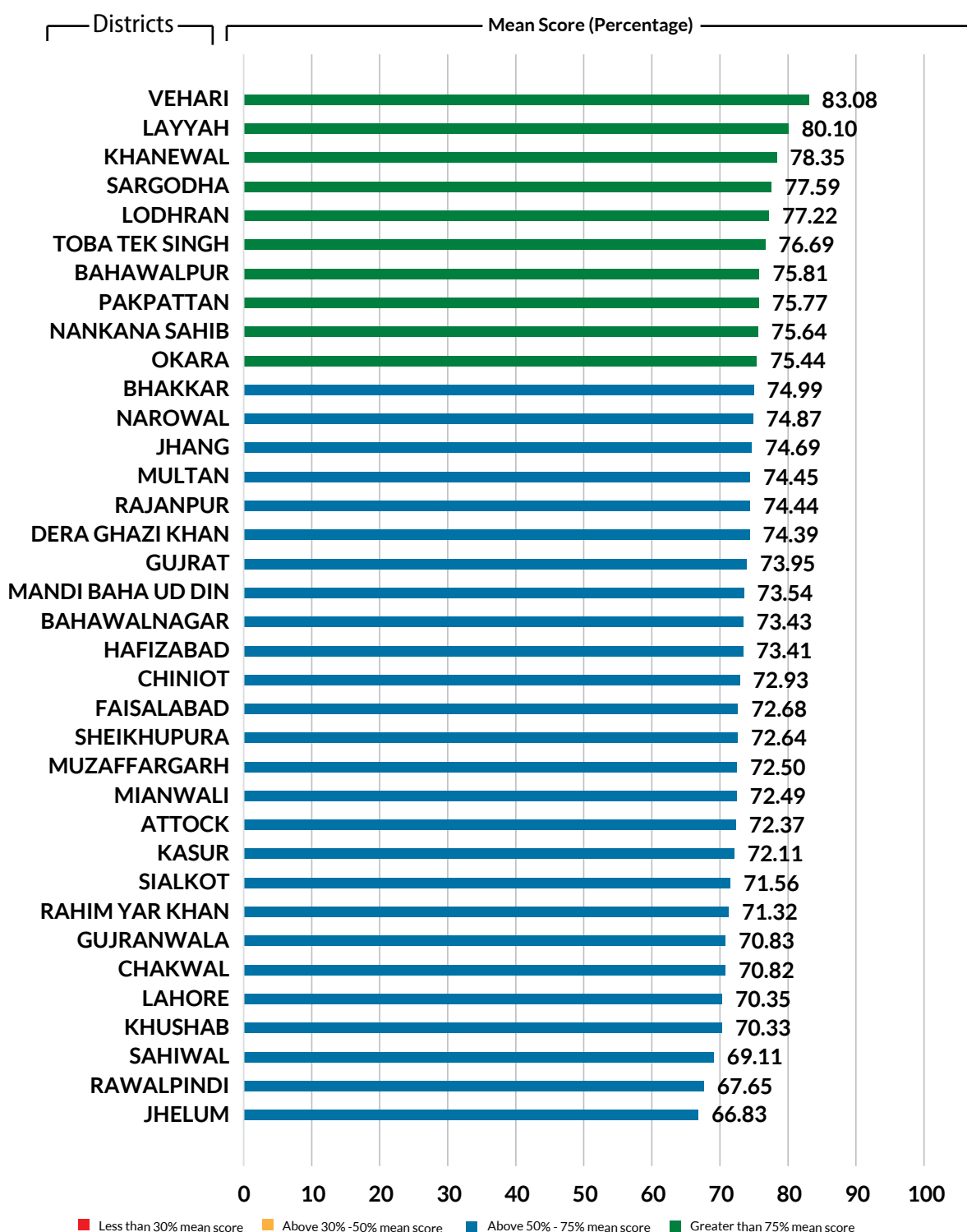


Figure 43: District-wise performance of students in Urdu in grade 8

District wise performance of students of grade 8 in the subject of Urdu is shown in Figure 43. All districts performed better in this Urdu than all the other subjects. Vehari scored 83.08% mean score which is the highest mean score achieved in any subject this year. Layyah, Khanewal, Sargodha and Lodhran scored 80.10%, 78.35%, 77.59% and 77.22% mean scores respectively. In Urdu all districts attained more than 70% mean score except for Sahiwal (69.11%), Rawalpindi (67.65%) and Jhelum (66.83%) districts.

Performance of Districts in Mathematics

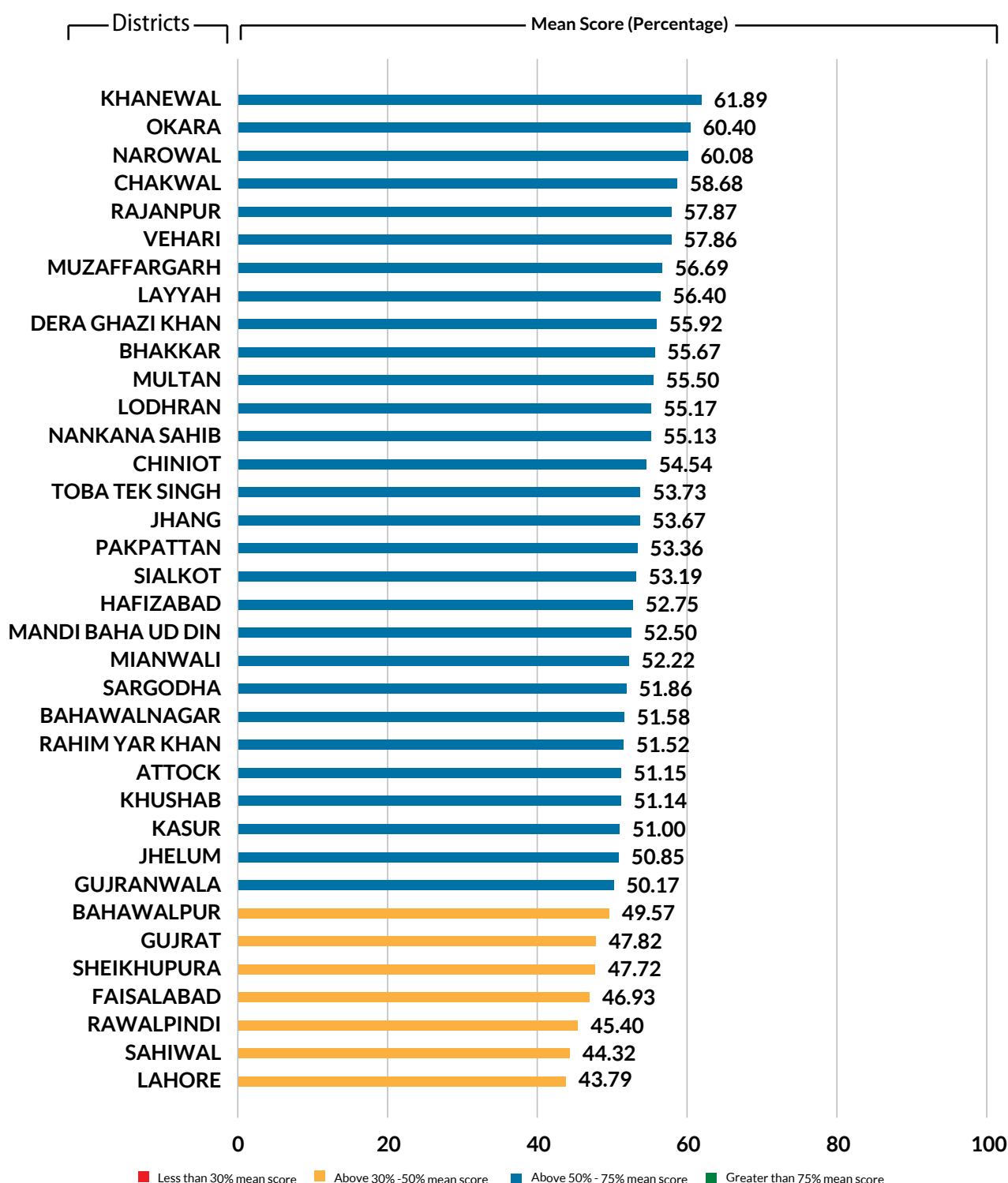


Figure 44: District-wise performance of students in Mathematics in grade 8

In the subject of Mathematics; Khanewal is the only district that scored more than 60% mean score. The top five districts in this subject are Khanewal with 61.89%, Okara with 60.40%, Narowal with 60.08%, Chakwal with 58.68% and Rajanpur with 57.87% mean score. The districts Sheikhupura, Faisalabad, Rawalpindi, Sahiwal and Lahore were among least scoring districts as represented in Figure 44.

Performance of Districts in Science

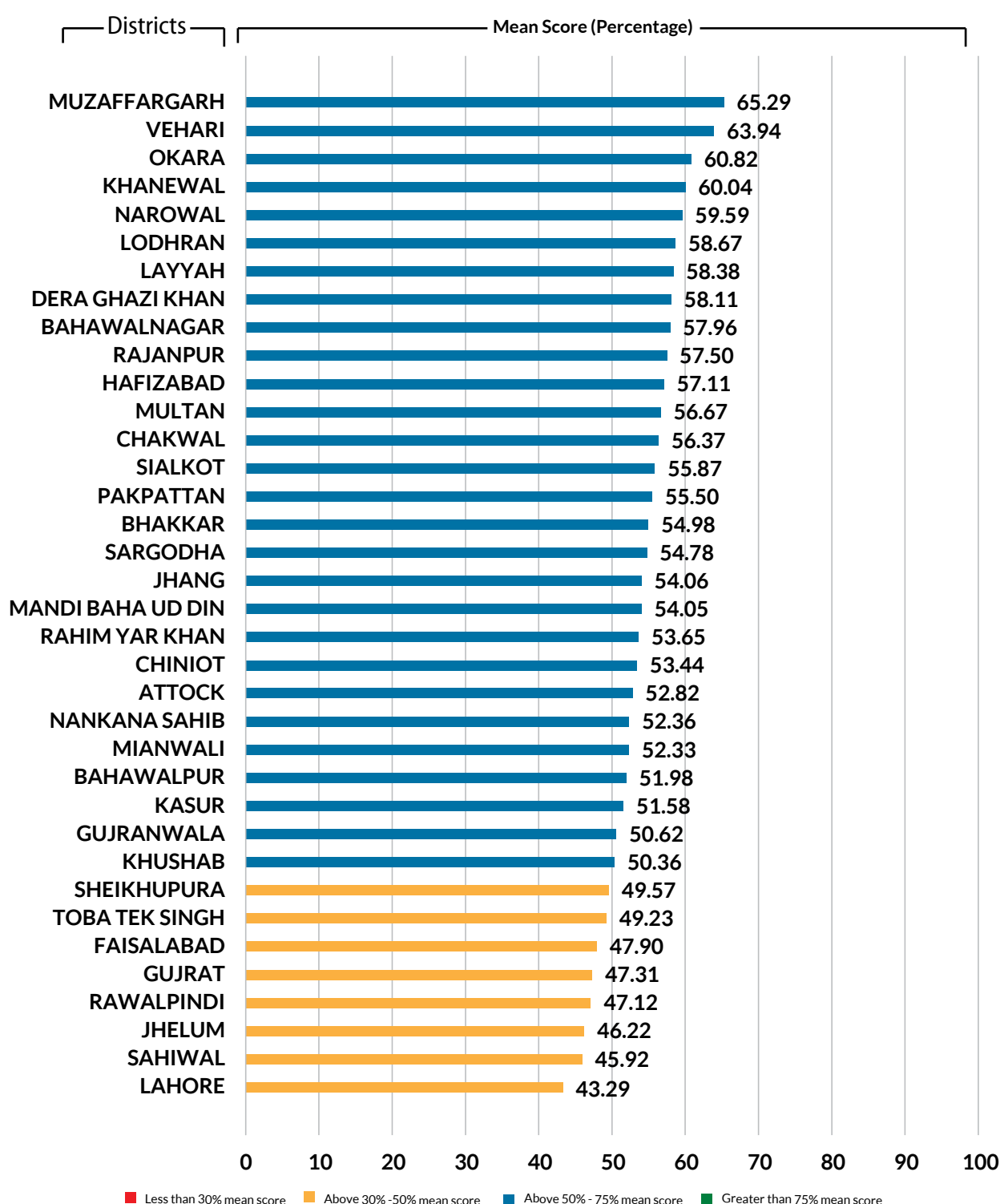


Figure 45: District-wise performance of students in Science in grade 8

Figure 45 illustrates the district wise performance of students in the subject of Science in grade 8. Muzaffargarh, Vehari, Okara, Khanewal and Narowal are the top five districts with 65.29%, 63.94%, 60.82%, 60.04% and 59.59% mean score. 28 out of 36 districts achieved more than 50% mean score while 8 districts achieved more than 40.0% mean score. Jhelum (46.22% mean score), Sahiwal (45.92% mean score) and Lahore (43.29% mean score) were among the least scoring districts in the subject of Science.

Performance of Districts in Islamiyat

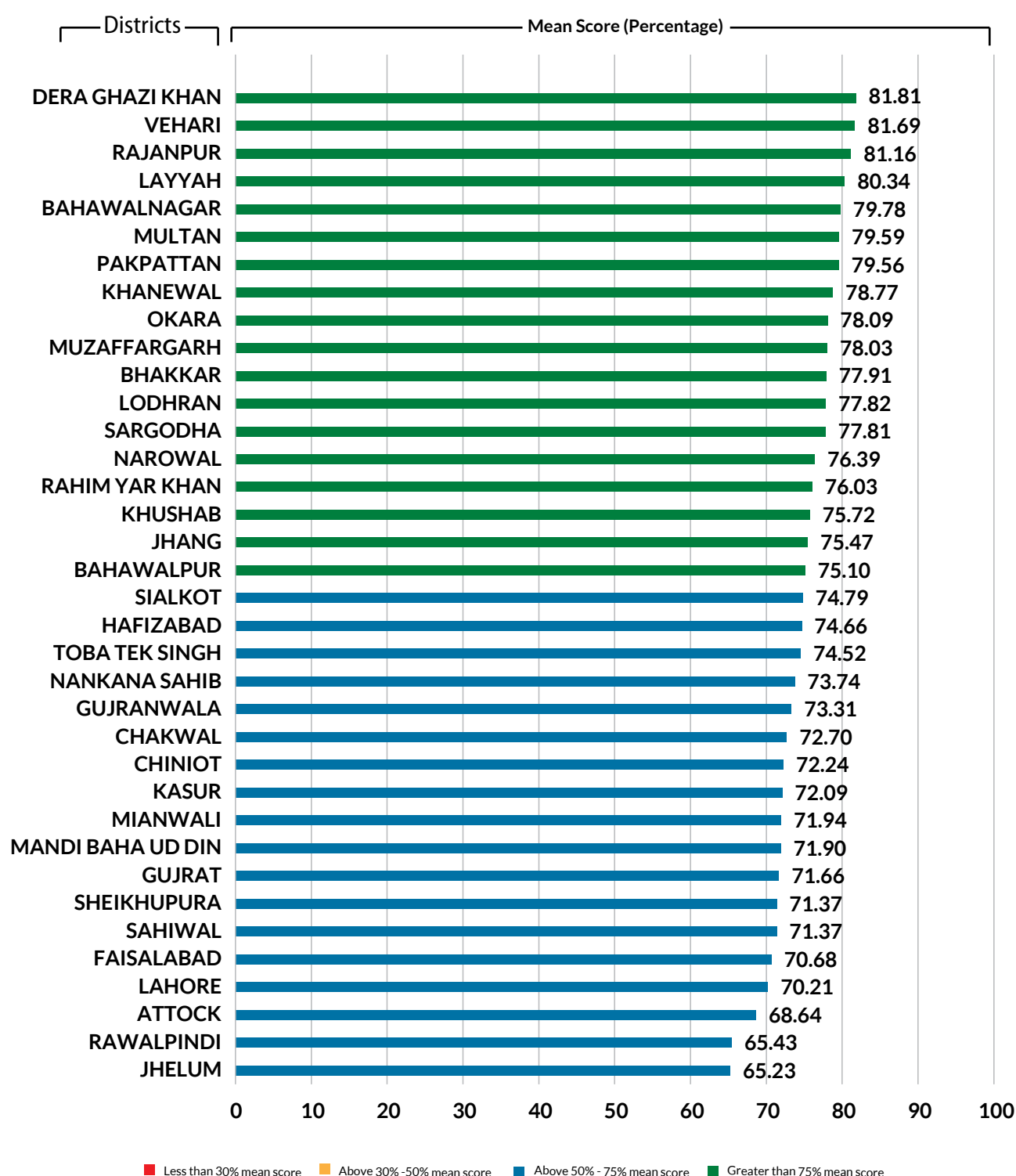


Figure 46: District-wise performance of students in Islamiyat in grade 8

In the subject of Islamiyat the students of grade 8 of 33 districts out of 36 districts achieved more than 70% mean score. DG Khan, Vehari, Rajanpur and Layyah achieved more than 80% mean score (i.e. 81.81%, 81.69%, 81.16% and 80.34% mean score respectively). The Attock, Rawalpindi and Jhelum were among the three least scoring districts in the subject of Islamiyat with 68.64%, 65.43% and 65.23% mean score. (The marks of Nazra of Holy Quran are included in these mean scores)

**EXAM
ANALYSIS REPORT**



SECTION 3

TOPIC WISE PERFORMANCE

Topic Wise Performance of Students

Topic Wise Performance in Mathematics- Grade 5

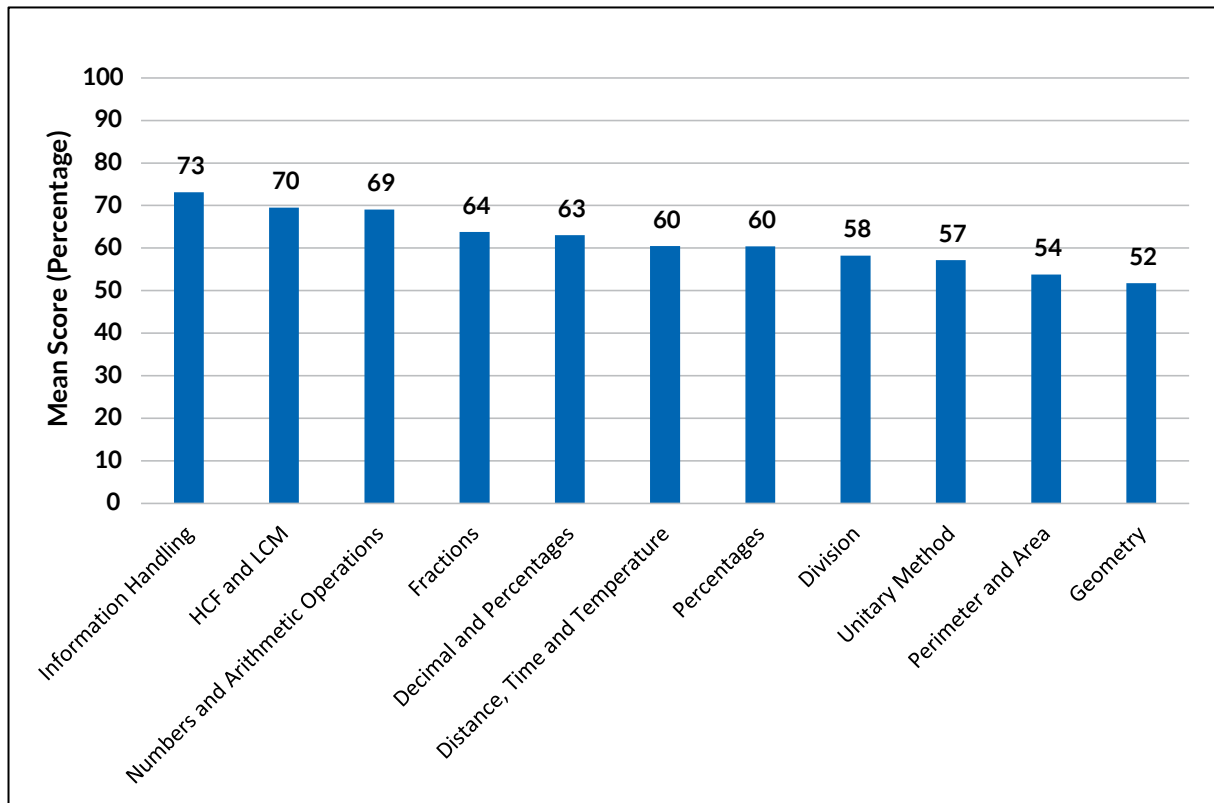


Figure 47: Topic-wise performance of grade 5 students in Mathematics

The topic wise performance of grade 5 students in the subject of Mathematics is shown in Figure 47. The graph illustrates that the students have better concepts in the topics of Information handling, Highest Common Factor and Least Common Multiple. In topics like Fractions, Decimal, percentages, Distance, Time and Temperature students scored more than 60% mean score percentage. The performance of students in the topics like Division, Unitary method, Perimeter, Area and Geometry was lower as compared to other topics indicating that these concepts were difficult for students.

Topic Wise Performance in English- Grade 5

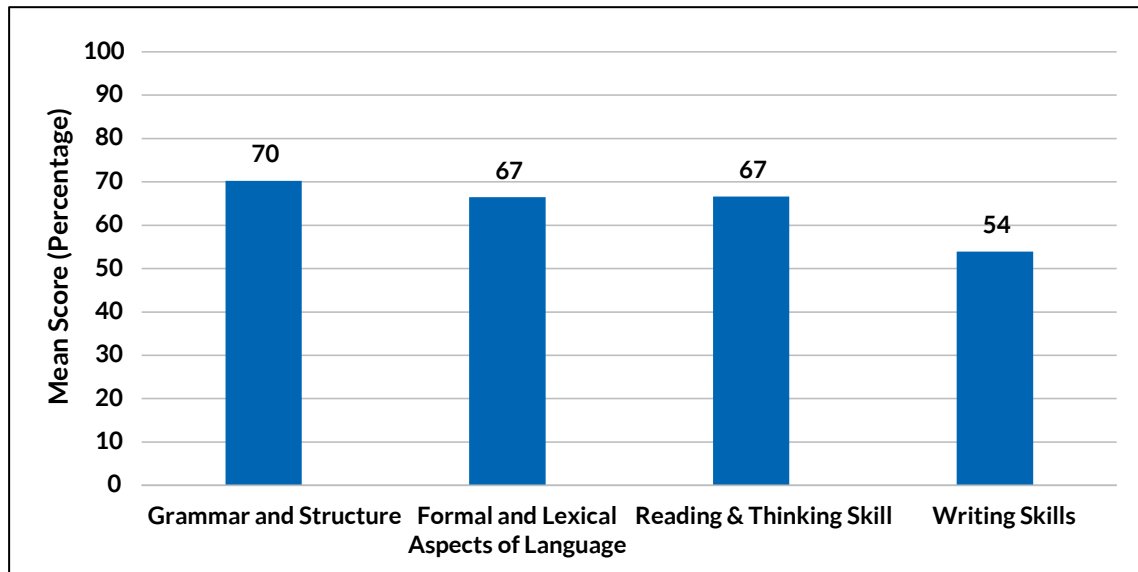


Figure 48: Topic-wise performance of grade 5 students in English

Figure 48 shows the topic wise performance of students in the subject of English in PEC exam 2018. The students scored highest in the topics related to Grammar and structure contents while lowest in writing skills. The performance of students in topics related to Formal & Lexical aspects of language and Reading & thinking skills is equally better.

Topic Wise Performance in Urdu- Grade 5

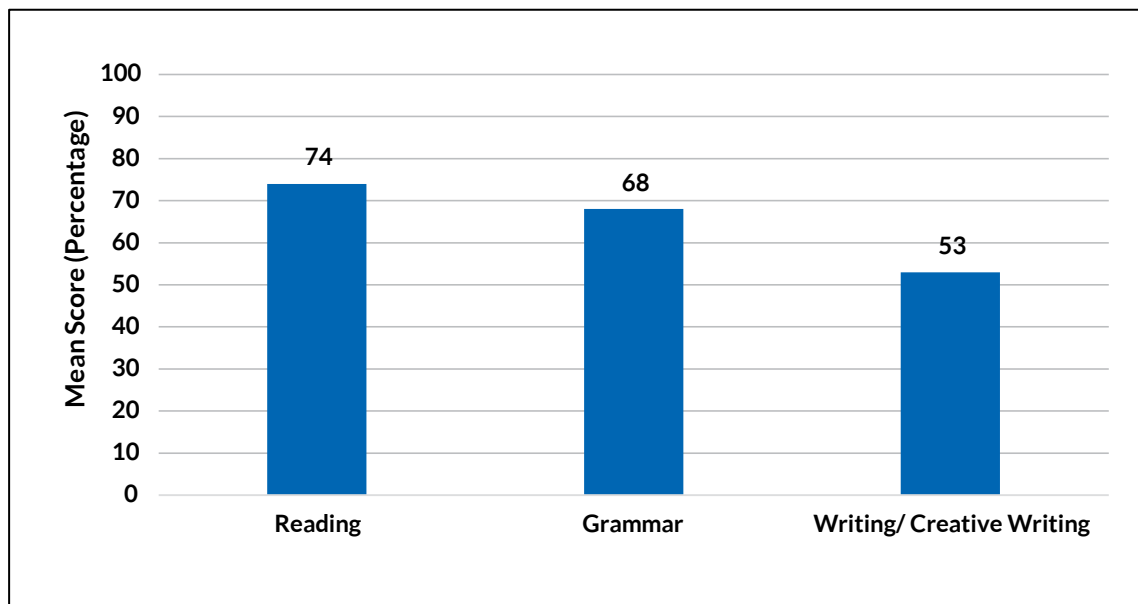


Figure 49: Topic-wise performance of grade 5 students in Urdu

The students of grade 5 performed relatively better in the Reading (mean score= 74%) than the grammar and writing contents in which students could score 68% and 53% respectively.

Topic Wise Performance in Science- Grade

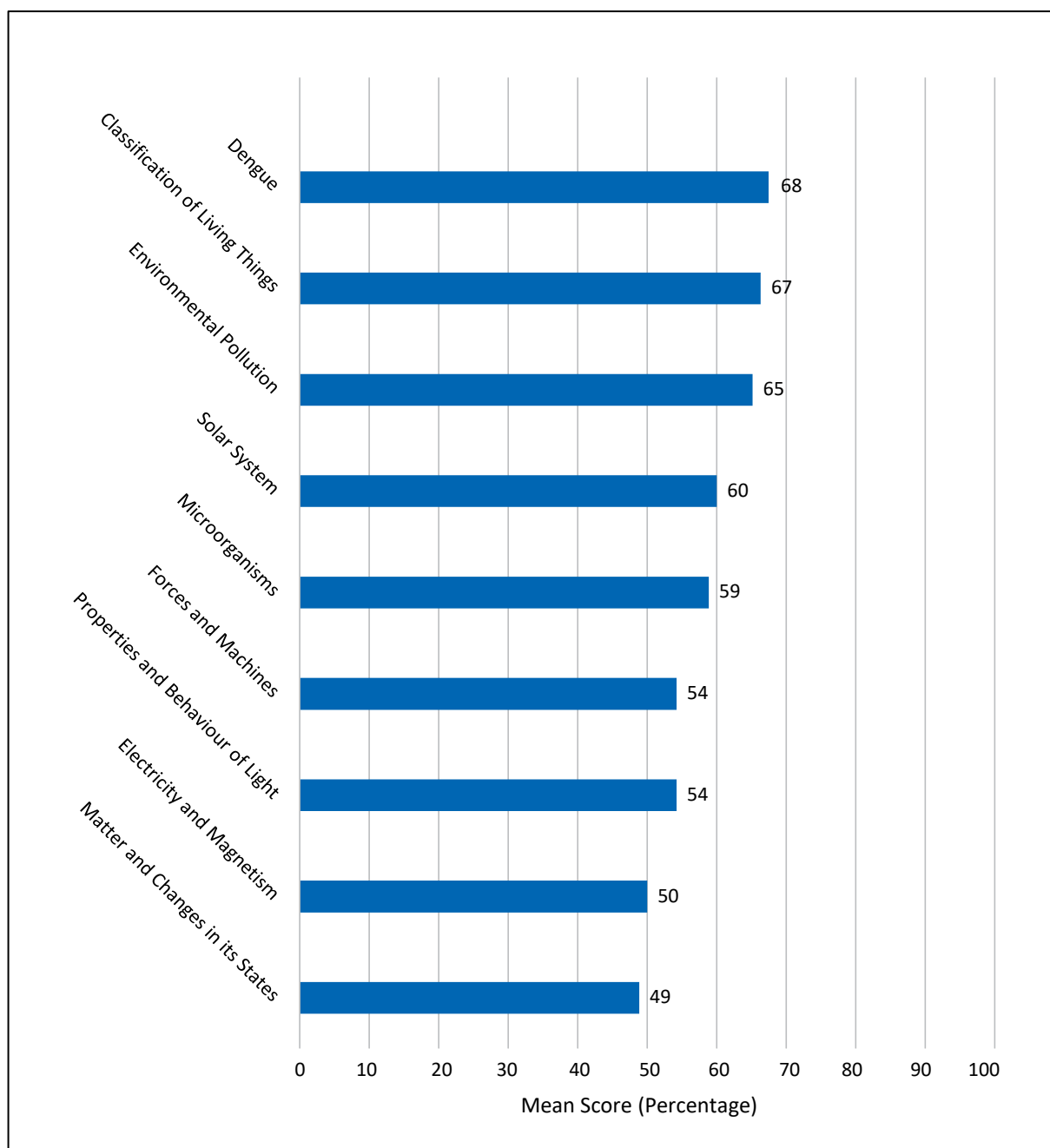


Figure 50: Topic-wise performance of grade 5 students in Science

The students of grade 5 performed relatively better in the topics like Dengue, Classification of Living Things and Environmental Pollution with mean scores 68%, 67% and 65%. In the sub-topics of Solar System, Microorganisms, Machines/Forces and Light; the performance of students lies between 60% and 50% mean score. The topic “Matter & Changes in its States” is the lowest performing content in the subject of Science.

Topic Wise Performance in Islamiat- Grade 5

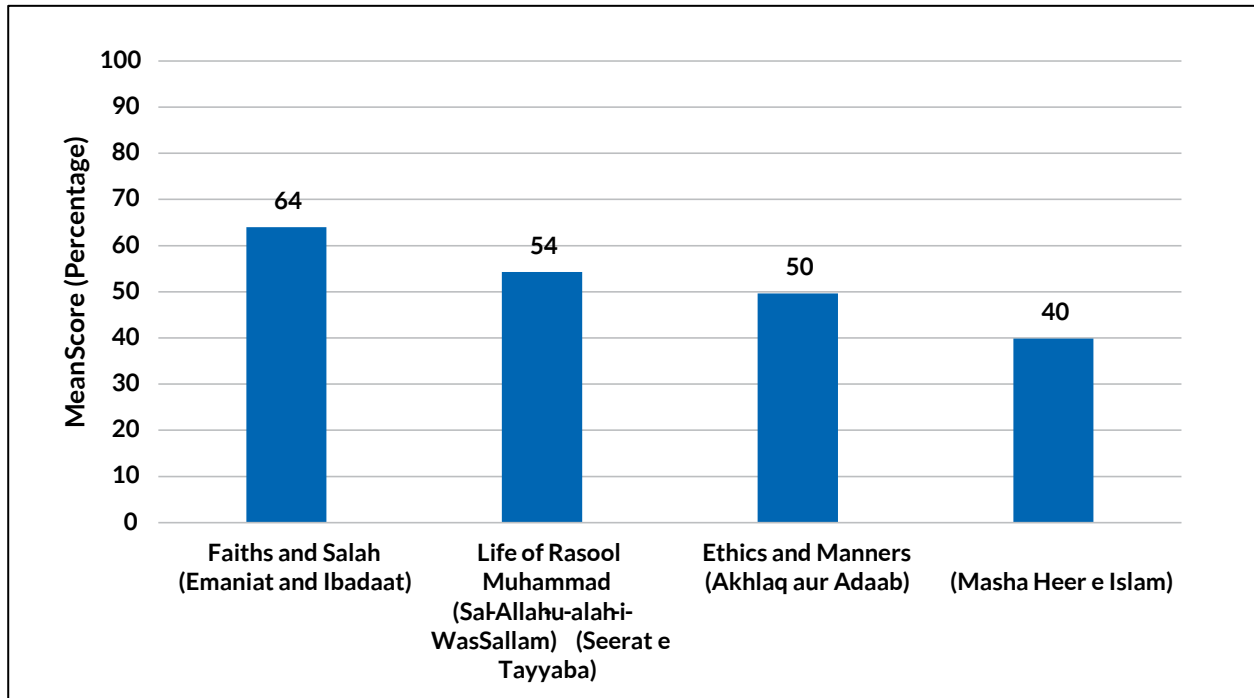


Figure 51: Topic-wise performance of grade 5 students in Islamiat

The topic wise performance of students in the subject of Islamiat is shown in the Figure 51. The topic “Faiths and Salah” with mean score 64% is the best performing content area while students scored lowest on the topic of “Heroes of Islam.” The topics of Life of Rasool Muhammad (Sal-Allah-u-alah-i-WasSallam) and Ethics & Manners are performed with 54% and 50% mean scores respectively.

Topic Wise Performance in Islamiyat- Grade 5

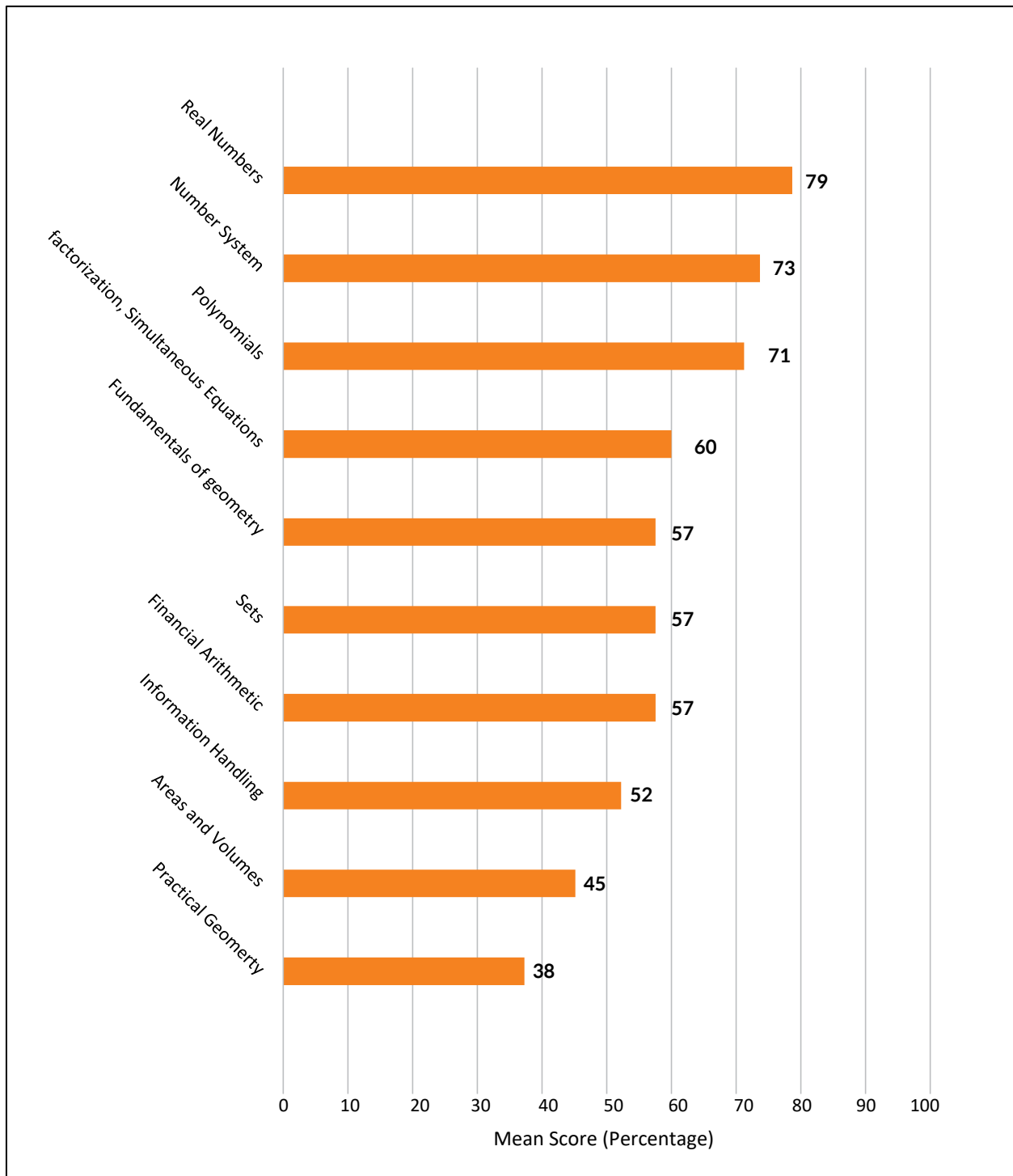


Figure 52: Topic-wise performance of grade 8 students in Mathematics

The students of grade 8 performed very well on the topics of Real number, Number system and Polynomials with 79%, 73% and 71% mean score. The topics including Factorizations, Geometry, Sets, Financial Arithmetic and Information Handling were averagely performed with mean score ranging from 52% to 60%. The topics like Practical geometry, Areas and Volumes were poorly performed indicating the fact that these topics are relatively difficult for the students.

Topic Wise Performance English G8

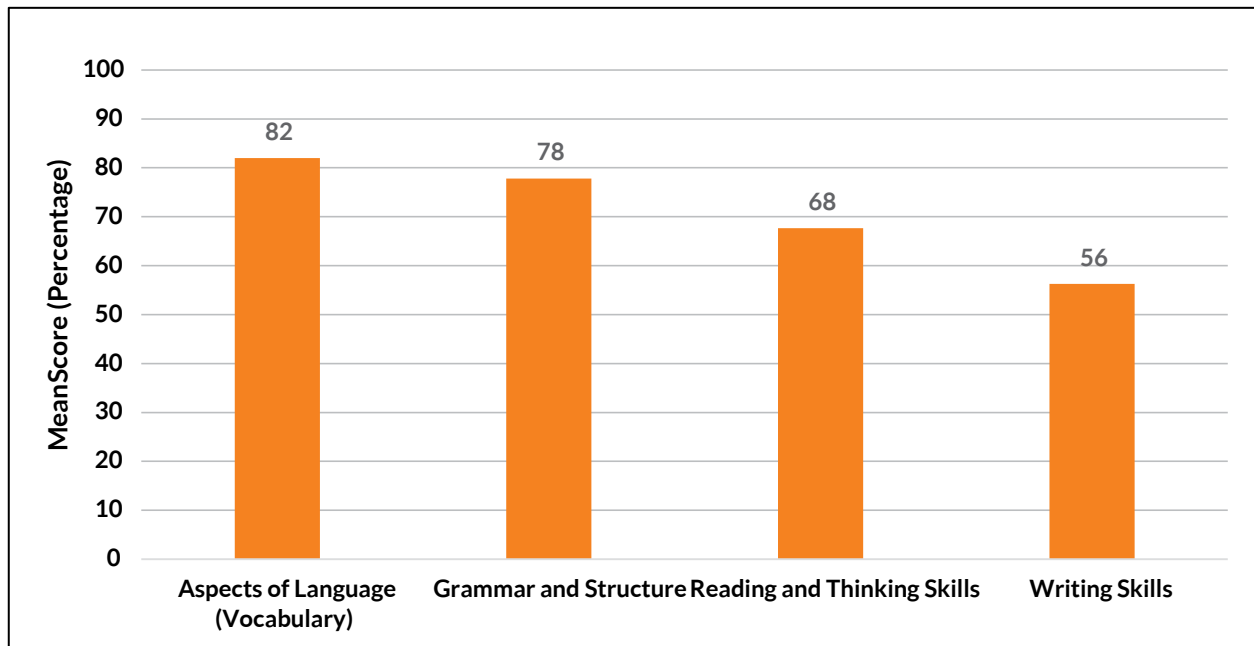


Figure 53: Topic-wise performance of grade 8 students in English

The topic wise performance of students in English is shown in Figure 53. The students performed much better and scored highest mean score percentage i.e. 82% in Aspects of Language (Vocabulary). The performance of students in Grammar & Structure and Reading & Thinking Skills are also good with mean score equals to 78% and 68% respectively. In writing skills students could score 56% mean score in grade 8.

Topic Wise Performance in Science Grade 8

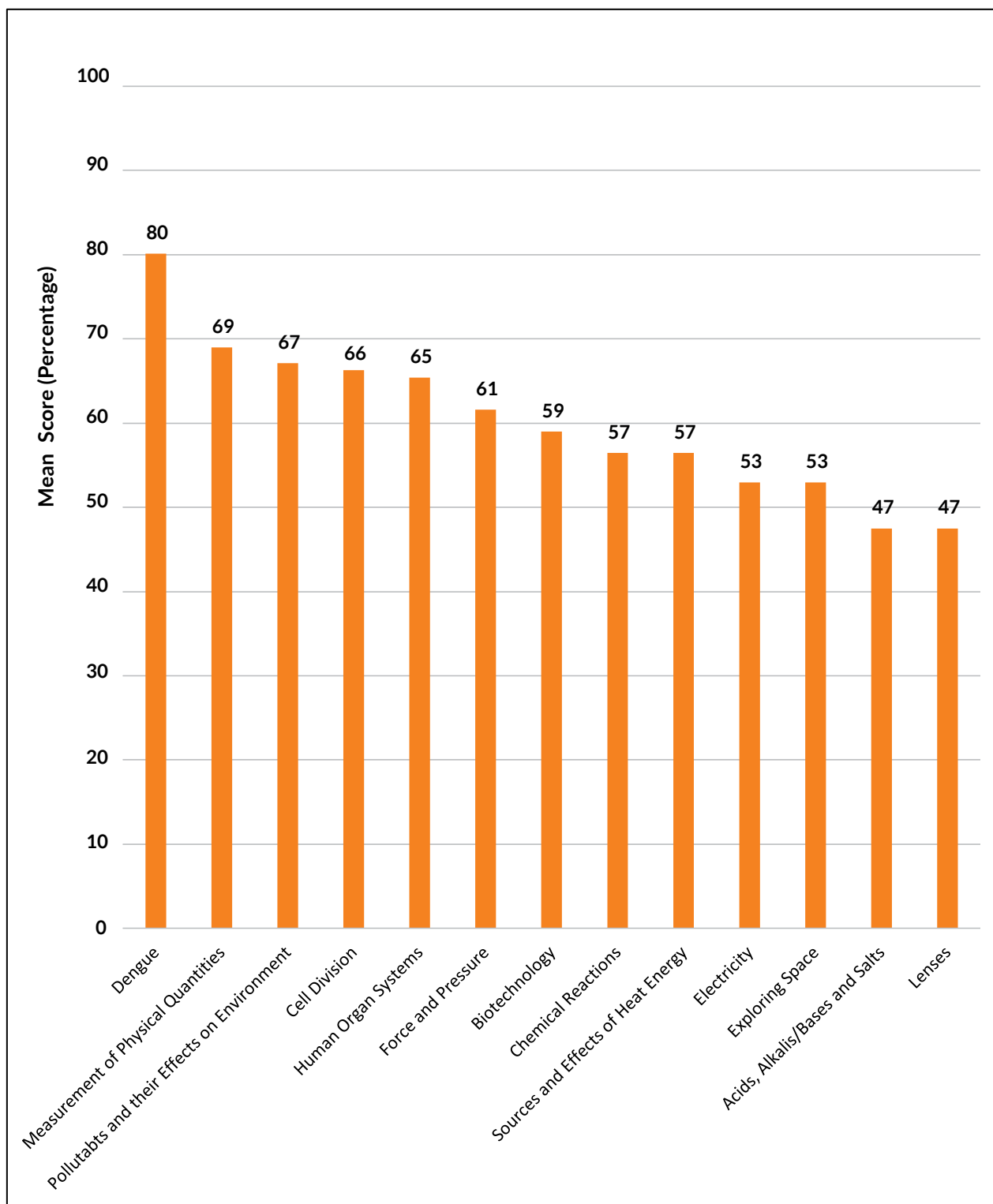


Figure 54: Topic-wise performance of grade 8 students in Science

The performance of students of grade 8 in PEC exam 2018 in the subject of Science is depicted in Figure 54. In the topic of dengue the students performed far better and scored 80% mean score. In all other content strands of grade 8 students scored higher than 50% mean score except for the topics of Lenses, Acids, Bases and Salts (mean score = 47%).

Topic Wise Performance in Urdu- Grade 8

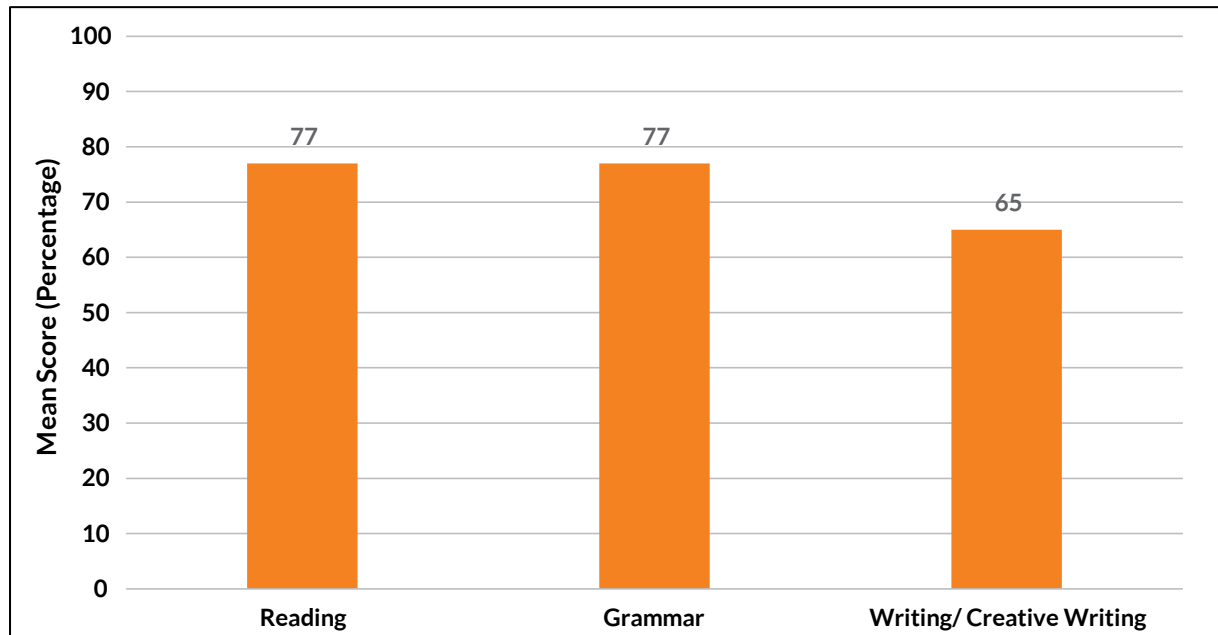


Figure 55: Topic-wise performance of grade 8 students in Urdu

Figure 55 shows the performance of students of grade 8 in the subject of Urdu in PEC exam 2018. The students performed equally well in the topics of Grammar and Reading and scored mean score equal to 77%. In writing area of the subject, the students performed good and scored 65% mean score.

Topic Wise Performance in Islamiyat- Grade 8

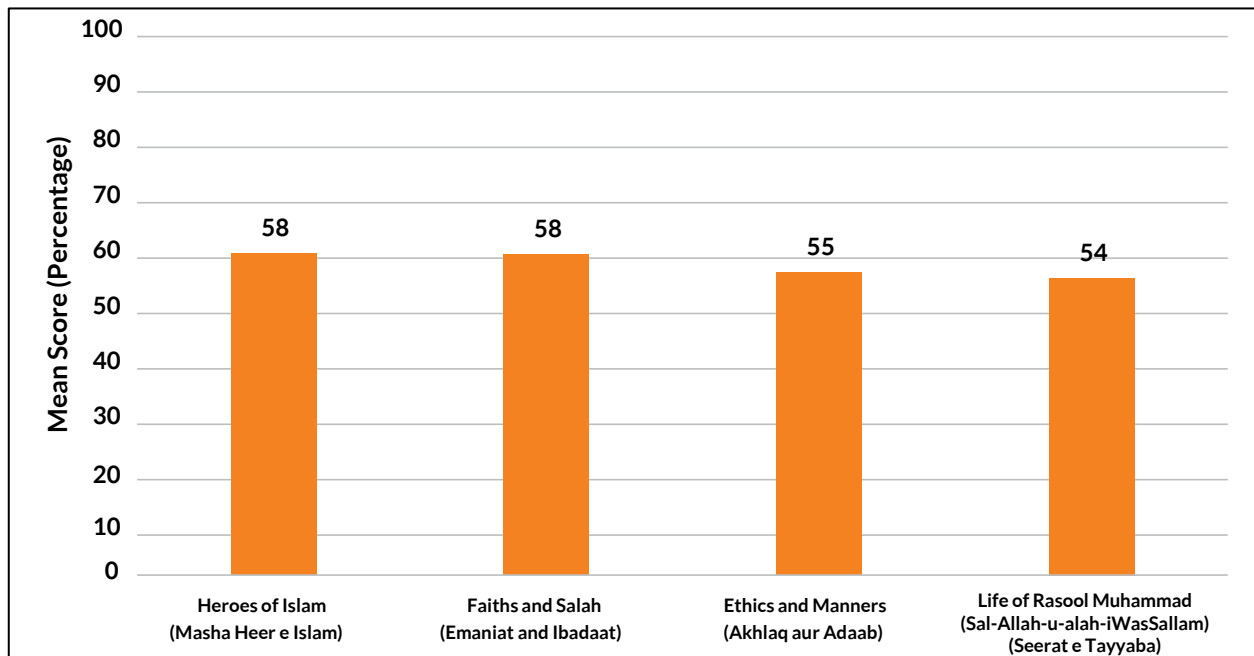


Figure 56: Topic-wise performance of grade 8 students in Islamiyat

Figure 56 illustrates the topic wise performance of grade 8 students in the subject of Islamiyat in PEC exam 2018. The students performed better and scored mean score equal to 58 % in the topics of Heroes of Islam and Faiths and Salah. In the topic of Ethics and manner the mean percentage score was 55 % while the performance of students in the topic of Life of Rasool Muhammad (Sal-Allah-u- alah-i-WasSallam) was lowest with mean score equal to 54%..

Performance of students across the Cognitive Levels

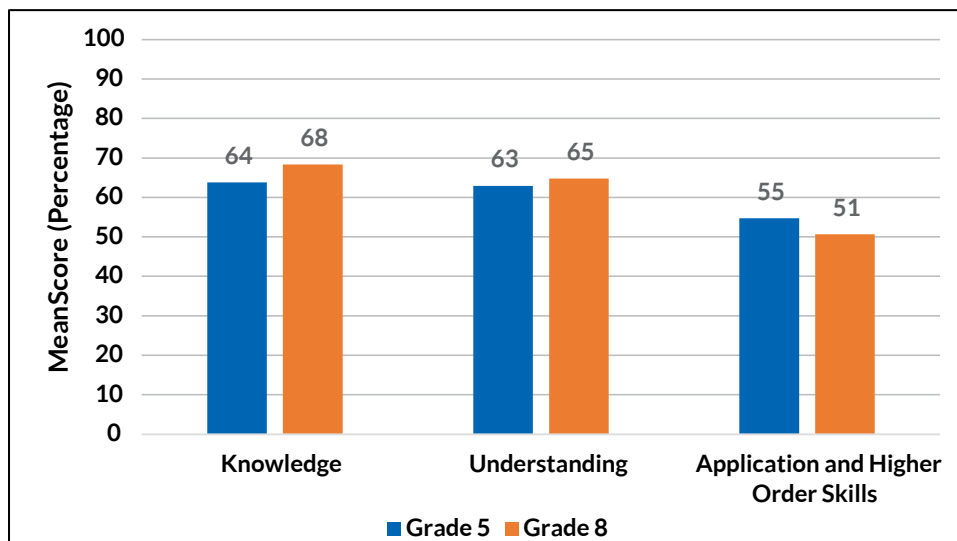


Figure 57: Performance of students across the Cognitive Levels

Figure 57 shows the performance of grade 5 and grade 8 students in PEC exam 2018 across different cognitive levels based on Blooms Taxonomy. The graph states that the students scored better in the knowledge level than the understanding, application and higher order skills. Application and higher order level questions are relatively difficult than the understanding level and that is why students scored lower in higher order skills. However, the students of grade 8 performed better than the students of grade 5 in Knowledge and understanding level while the students of grade 5 scored higher mean score in application and higher order skills.

**EXAM
ANALYSIS REPORT**



Key Findings and Recommendations

Key Findings and Recommendations

Sr.#	Key Findings	Recommendation
01	Overall in both grades (5 and 8), students scored highest mean score in Islamiat (including Nazra portion of Holy Quran) and Urdu while lowest in Science. English is the third lowest performing subject. In Science students performed lowest in the topics such as light, space and electricity. In Mathematics students performed lowest in the topics such as graphs, average, real life problems including geometry.	• Training should be focused on teachers in the subjects of Science, Mathematics and English. • In both grades, the physical and chemical part of the Science subject needs to be specifically focused and improvement in the contents of textbooks to make the concepts more clear to the teachers and students. • In the subject of Mathematics more practice is suggested in the geometry section during teaching. • Reading skill and vocabulary in the subject of English should be focused during teaching practices.
02	In both grades, students performed better on MCQs than CRQs in all subjects. On CRQs the students of grade 5 scored lowest in the subject of Islamiat while in grade 8 the students scored lowest in the subject of Mathematics.	In PEC exams, weightage of CRQs should be increased and the weightage of MCQs portion of the paper can be reduced. For Islamiat, all three portions i.e. CRQs, MCQs and Nazra should be of equal weightage in the exam. It should be compulsory for students to get passing marks in all portions in order to pass in the subject. 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. Step wise more practice is required in the subject of Mathematics. It is suggested to introduce writing notebooks and regular dictation practice to improve handwriting, memory, writing speed, spellings of words in English and Urdu language. This practice can improve overall learning of students

Key Findings and Recommendations

Sr.#	Key Findings	Recommendation
03	The high performing districts of PEC exams 2018 are Khanewal, Layyah, Narowal, Okara and Vehari. Some districts are performing poor as compared to other districts.	The district management officers of low performing districts are highly recommended to: - 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.
04	In grade 5 the students of private schools performed better than the students of public schools and private registered candidates in all subjects. The performance of students of public schools, in the subject of Science, is equal to that of private schools.	Teachers should use helping material other than the text books to make the concepts clearer and interactive for students. 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.
05	In grade 8 the students of private schools performed better than the students of public schools and private registered candidates in all subjects.	To get good comparative analysis of private and public sector schools; it is suggested that either the PEC exams should be compulsory for all private schools which are using PCTB textbooks/ curriculum. Or just brilliant/ selected students should be selected from public schools for appearing in PEC exams.
06	In both grades the performance of students was better and almost similar in Knowledge and Understanding level questions than the Application and higher order cognitive level questions.	In curriculum high order thinking activities and real time examples should be included to make the concepts more clear to the students. Teachers should use modern classroom assessment techniques, e.g. "One Sentence Summary", asking the most interesting thing of the lesson and pin-point the important facts of the lesson. Teachers should promote the habit of questioning in students through cooperative learning strategies and classroom discussions.

Key Findings and Recommendations

Sr.#	Key Findings	Recommendation
07	The SLOs of both Grades 5 and 8 in which students' performance was less than (mean score <40% are given in Annex III.	Topics on weak SLOs should be addressed in teacher training sessions and contents given in the textbook may be reviewed by experts to improve the understanding of teachers and students on these topics.

EXAM ANALYSIS REPORT

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Greater Than 60%
Mean Score

40-60%
Mean Score

Less Than 40%
Mean Score

ANNEX I: Student Performance Against SLOs- GRADE 5

ANNEX I: Student Performance Against SLOs- GRADE 5

- Greater than 60% mean score
- 40-60% mean score
- Less than 40% mean score

Student Learning Outcomes	Performance on Knowledge based Questions	Performance on Understanding based Questions	Performance on Application based Questions	Overall Mean %
SCIENCE				
Identify vertebrates and invertebrates from their surroundings.	68.7	45.9		57.3
Classify vertebrates into mammals, reptiles, fish, birds and amphibians on the basis of their characteristics.	80.3	78.4	70.7	76.4
Describe the advantages and disadvantages of microorganisms in daily life.	58.3	75.8		67.0
Identify ways by which microorganisms can enter the human body.		59.0		59.0
Suggest ways to avoid infections.	39.0		48.8	43.9
Define pollution.	87.0			87.0
Differentiate between biodegradable and non-biodegradable materials.	60.0	59.5	64.0	61.2
Describe the properties of the three states of matter on the basis of arrangement of particles.	48.5	64.8	45.9	53.1
Demonstrate and explain the processes that are involved in the change of states.	59.3		36.4	47.8
Identify and describe forms of moisture in the environment (e.g. dew, snow, fog, frost, rain).	67.5			67.5
Suggest methods to reduce friction.	76.0	77.0	33.3	62.1

Describe how lever makes work easier by giving examples of its uses from daily life.			72.0	72.0
Differentiate between luminous and non-luminous objects.	63.0	68.0		65.5
Explain the formation of shadows and eclipses.	71.0	56.0		63.5
Make an electromagnet with the help of a cell, iron nail and wire and show its working.		58.5		58.5
Describe fuse and its importance in any electric circuit.		67.0		67.0
Explain the production of static electrical charges in some common materials.	46.5	40.3	23.0	36.6
Explain that the Sun is a star.	75.0			75.0
Describe the solar system and its planetary arrangement showing position of Earth in our solar system.		54.4		54.4
Describe friction and its causes.	66.5		67.0	66.8
Explain the advantages and disadvantages of friction.		68.5		68.5
Identify and differentiate between transparent, opaque and translucent objects in their surroundings.	74.0	45.8		59.9
Identify key characteristics of worms and insects.	68.5	70.2		69.4
Describe different kinds of pollution.	86.0	74.0		80.0
Describe flow of electric current in an electrical circuit.	39.5	45.3		42.4
Describe the relationship between electricity and magnetism in an electromagnetic device.		65.0		65.0
Differentiate between a star and a planet.	60.3			60.3
Compare the three kinds of levers using examples.	49.0	30.5	52.0	43.8
Differentiate between the structure of monocot and dicot flower in terms of number of floral leaves.	44.0	39.5		41.8
Define classification	50.0			50.0

Identify the main groups of microorganisms and give examples for each.	58.0	65.0		61.5
Explain the effects of water, air and land pollution on environment and suggest ways to reduce them.	61.0	61.3	64.5	62.3
Investigate the effect of heat on particle motion during a change in states.		48.0		48.0
Explain the gravitational force using different examples.	40.0	51.3	55.0	48.8
Investigate that light travels in a straight line.			10.0	10.0
Differentiate between vertebrates and invertebrates according to key characteristics.	66.0	77.4		71.7
Explain main causes of water, air and land pollution.	83.0			83.0
Explore different electromagnetic devices used in their daily life.	59.0			59.0
Explain the relative size of the planets and their distance from the sun using a model.			60.0	60.0
Explain the impact of non-biodegradable materials on the environment.			39.7	39.7
Suggest ways to reduce the impact of non-biodegradable materials.			33.0	33.0
Describe the role of evaporation and condensation in the water cycle.	38.3	31.3		34.8

MATHEMATICS

Read numbers up to 1,000,000,000 (one billion) in numerals and in words.	67.3			67.3
Add numbers of complexity and of arbitrary size.		91.0		91.0
Divide numbers, up to 6 digits, by 2 digits and 3 digits numbers.		76.9		76.9

Verify distributive laws (Multiplication and Division).		43.8	71.7	57.7
Solve real life problems involving mixed operations of addition, subtraction, multiplication and division.			85.8	85.8
Find HCF of three numbers, up to 2 digits, using prime factorization method.		68.0		68.0
Find LCM of four numbers, up to 2 digits, using prime factorization method.		71.0		71.0
Add and subtract two and more fractions with different denominators.		66.7		66.7
Multiply a fraction by another fraction.		53.3		53.3
Divide a fraction by another fraction (proper, improper and mixed).		81.5		81.5
Add and subtract decimals.		64.9		64.9
Divide decimals by 10, 100 and 1000.		69.5		69.5
Convert percentage to fraction and to decimal and vice versa.		62.0		62.0
Convert hours to minutes, minutes to seconds and vice versa.		55.0		55.0
Solve real life problems involving conversion, addition and subtraction of units of temperature.			64.5	64.5
Solve real life problems involving conversion, addition and subtraction of units of time.			60.0	60.0
Calculate the value of a number of same type of objects when the value of another of the same type is given (unitary method).			81.8	81.8
Calculate the value of many objects of the same kind when the value of one of these objects is given.			76.5	76.5
Define triangles with respect to their sides (i.e., equilateral, isosceles and scalene triangle).	41.3			41.3

Recall an angle and recognize acute, right, obtuse, straight and reflex angle.	57.5			57.5
Solve appropriate problems of perimeter and area.		62.5	24.2	43.4
Solve real life problems involving average.			73.5	73.5
Read a simple bar graph given in horizontal and vertical form.			25.0	25.0
Carryout combined operations using BODMAS rule.		57.7		57.7
Simplify expressions involving fractions using BODMAS rule.		47.0		47.0
Simplify decimal expressions involving brackets (applying one or more basic operations).		55.3		55.3
Solve real life problems involving direct and inverse proportion (by unitary method).			37.7	37.7
Use protractor and straight edge/ruler to construct square and rectangle with given side(s).			57.1	57.1
Solve real life problems involving percentages.			56.7	56.7
Draw block graphs or column graphs.			57.0	57.0
Subtract numbers of complexity and of arbitrary size.		87.3		87.3
Multiply two or more fractions involving brackets (proper, improper and mixed fractions).		78.0		78.0
Multiply numbers, up to 6 digits, by 10, 100 and 1000.		85.0		85.0
Convert years to months, months to days, weeks to days and vice versa.		78.5		78.5
Multiply numbers, up to 6 digits, by 2 digits and 3 digits numbers.		64.2		64.2
Use compasses and straight edge/ruler to construct equilateral.			57.3	57.3

URDU				
Besides curriculum, making children able to read essays and stories given in newspaper pages for children, magazines and periodicals, having the purpose of the writer and reach to conclusion.	80.7	68.1		74.4
Make students able to read the tit bits and riddles, by picking the hidden humorous and light prudence in them.	76.3	74.1	67.9	72.8
Be able to read with fluency the news, features, editorials, reports, advertisements and letters to the editors, published in newspapers, magazines and periodicals.	87.7	71.9	65.5	75.0
After reading the poetic verses and poems, make students able to write the meaning of these, in one to two lines.			49.0	49.0
Be able to complete the story with the help of pictures and hints.			55.0	55.0
Be able to write letters of a few lines to friends and relatives, considering the parts of letters.			54.1	54.1
Be able to write the parts of application, considering the rules to be followed for application writing.			54.7	54.7
Have the efficiency of writing one's own observation and views in an integrated, fluent and a proper way.			52.6	52.6
Be able to fill in the blank in a simple sentence.		83.3		83.3
Be able to trace tense or period in a written text passage, and write it in other tense (Past to be in Present and future in Past etc).		72.2	75.5	73.9
Be able to find and reach the word meaning, with the help of the dictionary.	57.6			57.6
Be able to correct the wrong sentences.		79.7		79.7

Making all types of sentences with regard to the tense. And be able to learn changing from one tense to the other.		71.4		71.4
Be able to make subject from the verb and make adjustment of the verb to its subject and object.		65.1		65.1
Make use the exclamation words, used for calling someone, showing wonder and sorrow etc.		48.9		48.9
Be able to identify the changes occurring or taking place because of changing the marks on Words (just marks are changed, changing not the word).			56.1	56.1
Be able to identify the different types of the Proper Noun, used or employed in sentences.		69.3		69.3

ENGLISH				
Demonstrate the use of conventions of letter writing.			41.3	41.3
Write a guided story using the elements of story writing.			47.4	47.4
Apply strategies to comprehend questions for appropriate response by various following question types.- Personal response.			49.8	49.8
Apply strategies to comprehend questions for appropriate response by various following question types: - Interpretive.		51.9		51.9
Write sentences of their own using correct capitalization, punctuation and spellings.		53.9		53.9
Pronounce and spell simple words with silent letters such as "wr" and "kn" in write and know.		56.3		56.3
Use capitalization according to rules learnt earlier.		61.3		61.3

Use Past Continuous Tense for actions that were in progress at some time in the past and to give a Descriptive background to a narrative/ recount.		62.0		62.0
Illustrate use of pronouns learnt earlier. Use the personal pronouns myself, yourself/ves, himself, herself, ourselves, themselves and itself.	62.5			62.5
Use simple Past Tense for completed actions, with or without mention of specific time.		64.0		64.0
Classify more nouns as Common and proper nouns (names of people, pets, places, mountains, lakes, rivers, etc.).	64.5			64.5
Demonstrate use of words showing position, time and movement and direction.		64.8		64.8
Demonstrate use of subject-verb agreement according to person and number.		66.8		66.8
Pronounce and spell long and short vowels and diphthongs, diagraphs and trigraphs as they occur as practice items and sentences in reading lessons and in speech.	67.0			67.0
Recall the rules of punctuation learnt earlier.		67.0		67.0
Complete a simple paragraph using the given words, phrases, and sentences.			67.1	67.1
Classify adjectives of quantity, quality, size, shape, color and origin. Articulate, identify and use degrees of regular and irregular adjectives.		67.5		67.5
Apply strategies to comprehend questions for appropriate response by various following question types: - factual.	68.4			68.4

Apply strategies to comprehend questions for appropriate response by marking key words, verbs and tenses in a variety of the following question types.- Factual.		65.0	73.3	69.1
Break up and join some common compound words into words they are made of.		71.5		71.5
Recognize, find out, create and use more rhyming words.	73.8			73.8
Recall, and demonstrate use of more common, countable and uncountable, collective nouns from immediate and extended environment.		75.5		75.5
Illustrate the use of tenses (Simple present and continuous, simple past and continuous, and simple future tense) previously learnt in their speech and writing.		75.5		75.5
Show possession by using the pronouns my, your, his, her, its, our, and their before nouns.	76.3			76.3
Respond to, and ask "wh" questions.		76.5		76.5
Identify types of sentences among declarative, imperative, interrogative and exclamatory.	79.3			79.3
Recall and apply the rules for the use of a and an. Choose between a or an before words that start with mute consonant letters. Identify and use the definite article the. Differentiate between use of definite and indefinite articles.	81.5			81.5
Change the number of one or more regular or irregular nouns and nouns, with no change in number.		85.3		85.3

ISLAMIAT				
Be able to tell the meaning of life hereafter.	7	91		49
Make clear the importance of Sunnah of the Holy Prophet (PBUH), in practical life.	83			83
Be able to show the social importance of Eidain/Eids.		46.33	48.04	47.19
Be able to know the inevitability of fasts, with regard to the Holy Quran.	77	90		83.5
Be able to describe the introduction and importance of the Charter of Madina.	83	52.67		67.83
Be able to narrate the reasons of the Battle of Badr.	26.43	60		43.22
Be able to narrate the happenings of the Battle of Uhud.		51		51
Be able to describe the reasons of the Battle of Trench.	23	48.33		35.66
Evaluate the lesson which the Battle of Trench has for the Muslims of today.			30.5	30.5
Be able to describe the meaning of 'Afwo Darguzar' (forgiveness) with interpretation.		51		51
Be able to make clear the 'Afwo Darguzar' (forgiveness), in the light of the Holy Quran.		25.25		25.25
Be able to make clear 'Afwo Darguzar' (forgiveness) in the light of the live actions from the life of our Holy Prophet (PBUH).			34.75	34.75
Be able to make clear the importance of tolerance, in the light of the examples of the companions of the Holy Prophet Hazrat Muhammad (PBUH).	11	38.33	48.6	32.64
Be able to make clear the importance of tolerance, in the light of the life examples of the Holy Prophet (PBUH) and His (PBUH) companions.		85		85

Be able to evaluate that by adopting frugality, society can make rapid progress.		43.5	77	60.25
Be able to make clear the importance of brotherhood, in the light of the Holy Quran and life of the Holy Prophet (PBUH).	62			62
Be able to describe the need and importance of reciting the Holy Quran.	67			67
Be able to know about the biography of Hazrat Usman (R.A).	7	71		39
Be able to tell about the services of Hazrat Khalid bin Waleed (R.A) rendered for Islam.	32.3	29.87		31.08
Describe the Obedience of the Holy Prophet (PBUH) in the light of the Holy Quran and life of the Holy Prophet (PBUH).		79.5		79.5
Give the introduction to Juma' prayer.	69.3	26.52	5	33.61
Make clear the social importance of Juma' prayer.	94	75	31	66.67
Be able to make clear the importance of fasts, also the rewards to be attained by keeping fasts, that too in the light of the sayings of the Holy Prophet (PBUH).	87			87
Be able to describe the meaning and interpretation of Brotherhood (Muakhaat).	92			92
Be aware to the need of the construction of Masjid e Nabvi.	60	39.43		49.72
Be able to make clear the social importance of Masjid e Nabvi.	89	30.48		59.74
Be able to make clear 'Afwo Darguzar' (forgiveness) in the light of the live actions from the life of our Holy Prophet (PBUH).		82		82
Be able to tell the services of Hazrat Usman (R.A), rendered for Islam.	92	15		53.5

Be able to clarify the importance of life hereafter.			85.5	85.5
Make clear the meaning of the Sunnah of the Holy Prophet (PBUH) in the light of the pillars of Islam.		81		81
Be able to narrate the benefits and rewards to be attained from the brotherhood.			61	61
Make clear the conditions of the Charter of Madina.	34.25			34.25
May reach to the conclusion with regard to the effects of the Charter of Madina.		30.77		30.77
Be able to describe the incidents and happenings of Battle of Badr.	81		19.55	50.28
Be able to make clear the lesson for the Muslims, hidden in the Battle of Uhud.			70	70
Be able to describe the social benefits and rewards of 'Afwo Darguzar' (forgiveness).		11		11
Be able to clarify the importance of Placidness, in the light of the teachings of the Holy prophet (PBUH).		61		61
Be able to make clear the importance of tolerance, in the light of the examples of the companions of the Holy Prophet Hazrat Muhammad (PBUH).		24.38	58	41.19
Be aware to the duty of preaching and invitation of that of Hazrat Isa (A.S), and the wisdom by which he used to preach.		19		19
Be able to tell about the conquests made during the period of Hazrat Usman (R.A).		13.8		13.8
Be able to tell about the biography (life happenings) of Hazrat Khalid bin Walid (R.A).	84	60.58		72.29

Make clear the importance of Sunnah of the Holy Prophet (PBUH), in practical life.			91	91
Be able to learn lessons from the Battle of Badr.		86	56.67	71.33
Be able to make clear the importance of fulfilling the promise, in the light of the Holy Quran and sunnah of the Holy Prophet (PBUH).	10	29.38		19.69
Be able to evaluate how keeping the promise provides guarantee to social peace.	50.73		51	50.87
Be able to describe the meaning and importance of lenity/kindness in the light of the Holy Quran and saying of the Holy Prophet (PBUH).		53.49		53.49
Be able to describe the meaning of frugality, with its interpretation.		90		90
Be able to describe the miracles given to Hazrat Isa (A.S).	11			11

ANNEX II: Student Performance Against SLOs- GRADE 8

- Greater than 60% mean score
- 40-60% mean score
- Less than 40% mean score

Student Learning Outcomes	Performance on Knowledge based Questions	Performance on Understanding based Questions	Performance on Application based Questions	Overall Mean %
English				
Identify a compound word in the given text.		70.5		70.5
Deduce meaning of difficult words from context.		67.0		67.0
Apply strategies to comprehend questions by marking key words,		74.3		74.3

verbs and tenses in a variety of question types;- Literal/ textual/ factual				
Apply strategies to comprehend questions by marking key words, verbs and tenses in a variety of question types;- Interpretive		69.8		69.8
Apply strategies to comprehend questions by marking key words, verbs and tenses in a variety of question types: - Inferential		59.0		59.0
Apply strategies to comprehend questions by marking key words, verbs and tenses in a variety of question types:- Evaluative		46.0		46.0
Read a poem and give orally or in writing:- Main idea		63.5		63.5
Read a poem and give orally or in writing:- Summary	82.3			82.3
Read a poem and give orally or in writing:- Paraphrase		68.5		68.5
Read a poem and give orally or in writing: - Recognize literary techniques such as personification and alliteration.		74.3		74.3
Identify rhyming words in the given poem.		69.5		69.5
Write a guided paragraph on a given topic.			41.7	41.7
Write a narrative in the first or third person which describes events/ incidents. Use sequential order. Use specific adjectives and adverbs. Use appropriate tense.			43.7	43.7
Write formal/informal letters to people in immediate and extended social and academic environment for various purposes.			56.3	56.3
Analyze questions to write effective and identifying verbs and tenses recognizing question types such as,			63.5	63.5

interpretive, Inferential, Evaluating, Open ended, Personal response. Focused answers of required length by marking key words.				
Analyze questions to write effective and identifying verbs and tenses recognizing question types such as - interpretive		76.5		76.5
Analyze questions to write effective and identifying verbs and tenses recognizing question types such as - Inferential		69.1		69.1
Analyze questions to write effective and identifying verbs and tenses recognizing question types such as - Evaluating			60.1	60.1
Analyze questions to write effective and identifying verbs and tenses recognizing question types such as - Personal response			46.1	46.1
Write and revise short formal dialogues.			42.1	42.1
Build and use appropriate vocabulary and correct spelling for effective communication.		84.0		84.0
Recognize syllable division of words in written text.		79.8		79.8
Demonstrate use of more common and proper, collective nouns.	85.0			85.0
Differentiate between, and demonstrate use of material/ concrete and abstract nouns.	78.0			78.0
Recognize, differentiate and demonstrate use of possessive forms of more animate and inanimate nouns.		81.8		81.8.
Demonstrate extended use of question words.	76.5			76.5
Recognize function of, and use possessive, reflexive and emphatic pronouns.	83.8			83.8

Apply rules of a, an, and the wherever applicable in speech and writing.		83.5		83.5
Illustrate use of helping verbs in writing.		73.8		73.8
Demonstrate function and use of infinitives.		80.3		80.3
Recognize the form and various functions; and illustrate use of Present and Past Perfect Tense.	72.0			72.0
Recognize the form and various functions; and illustrate use of Future Perfect Tense.		69.5		69.5
Form adjectives from nouns and verbs.	76.8			76.8
Recognize varying positions of adverbs in sentences according to their kinds and importance.	78.5			78.5
Illustrate use of prepositions of position, time, movement and direction.		82.8		82.8
Illustrate use of since and for.		75.0		75.0
Apply rules of capitalization wherever applicable.		76.5		76.5
Illustrate use of punctuation (comma, colon, semi colon, quotation marks, hyphen, dash, parenthesis, ellipses marks learnt earlier.		84.8		84.8
Identify active and passive voice in sentences.	65.5			65.5
Identify function of direct and indirect speech.	56.5			56.5
Identify sentence with correct sentence structure.		84.0		84.0

ISLAMIAT				
Be able to describe (give detail) the Rituals of Pilgrimage (Manasik e Hajj).			2.0	2.0
Be able to make clear the importance of pilgrimage.		7.0		7.0

Be able to describe the meaning of preaching along with some explanation.		87.0		87.0
Be able to describe of patience along with some explanation.	90.0	93.0		91.5
Be able to tell the meaning of sincerity (Ikhlas).		10.0		10.0
Be able to describe the importance of fulfillment of promise, in the light of the Holy Quran and sayings of the Holy Prophet (PBUH).		4.0		4.0
Be acquainted with the reward to be attained from adopting perseverance.		59.0		59.0
Be able to make clear the importance of Afwo Darguzar (Forgiveness), in the light of the Quran and the life of the Holy Prophet (PBUH).		97.0		97.0
Be able to narrate the happenings of the occurrence of Doomsday.		50.1		50.1
What should we do with regard to having concern for life hereafter, gets themselves prepared for it.			87.0	87.0
Be able to describe the Quranic teachings and sayings of the Holy Prophet (PBUH), regarding "Fear to Allah).	61.0			61.0
Be able to describe the punishment for being dishonest in business.	94.0	60.0	18.0	57.3
Be able to describe the importance of Lawful Earning.		94.0		94.0
Be able to write Quranic teachings of the Holy Prophet (PBUH), regarding rights of the orphans.	50.0			50.0
Be able to describe the importance of discipline in the light of the Holy Quran.	93.0		86.0	89.5
Be able to describe the purpose of jihad.	33.6	15.0		24.3
Be able to narrate stages of education and training of Bu Ali Sina.	62.0			62.0

Be able to make clear the reality of the world logically.		62.6		62.6
Be able to make clear the concept of life hereafter.		33.6		33.6
Be able to tell the qualities of the speaking style of our Holy Prophet (PBUH).		74.5		74.5
Be able to make the importance of Good Speaking Style clear, with the help of Quranic teachings.	53.0			53.0
Be able to explain the meaning of Good Speaking Style.			57.8	57.8
Be able to tell about the family background of Hazrat Salman Farsi (R.A).	48.0	84.0	59.0	63.7
Be able to describe the hardships and difficulties, which Hazrat Salman Farsi (R.A) faced in the way of truth.	50.0	70.0		60.0
Be able to tell the importance of Hajj journey.		73.3		73.3
Be able to give detail of Quranic injunctions regarding fasts.		57.4		57.4
Be able to make clear the meaning of forbearance, with some detail.		49.5		49.5
Be able to make clear the Quranic injunctions, regarding forgiveness.	1.0			1.0
Be able to describe the Quranic teachings of the Holy Prophet (PBUH), regarding Good Social Dealing.		47.5		47.5
Be able to tell the qualities of the speaking style of our Holy Prophet (PBUH).			89.0	89.0
Be able to make responsibilities clear of that of husband and wife, in the light of the Holy Quran.		27.4	52.9	40.1
Be able to give explanation of fulfillment of promise, in the Holy life of prophet Hazrat Muhammad (PBUH).			66.0	66.0

Be able to narrate Quranic teachings regarding Khashiat e Elahi.	79.0	2.0	41.0	40.7
Be able to describe the meaning of Hypocrisy.		83.0		83.0
Be able to make clear the importance of unity, with regard to worships.		87.0	81.0	84.0
Be able to describe Quranic injunctions, regarding 'Amr Bil Ma'roof Wa Nahi Anil Munkar'.	9.0	92.0	1.0	34.0
Be able to describe the miracles of Hazrat Isa (A.S).		86.0	7.0	46.5
Be able to make clear the education of Hazrat Shah Waliullah.	95.0	73.0		84.0
Be able to know the literal and term meaning of Pilgrimage (Hajj).	72.3			72.3
Be able to make clear the role of pilgrimage (Hajj) in developing National Unity.		69.9	80.0	74.9
Be able to know the meaning of Khashiat e Elahi (Fear of Allah).		64.9		64.9
Be able to narrate sayings of the Holy Prophet (PBUH), regarding Khashiat e Elahi.	36.7			36.7
Be able to describe the family background of Hazrat Fatima (R.A).		53.2	46.5	49.9
Be able to tell about the marriage (Nikah) of Hazrat Fatima (R.A).			48.1	48.1
Be able to tell the importance of Hajj journey.			98.0	98.0
Be able to give examples of Holy Prophet (PBUH)' kindness with animals.		98.0		98.0
With regard to preaching, be able to make characteristics cleared of the prudential style of preaching of the Holy Prophet (PBUH).			5.0	5.0
Be able to describe 'Amr Bil Ma'roof Wa Nahi Anil Munkar', with reference to sayings of the Holy Prophet (PBUH).			2.0	2.0

Be able to describe the benefits of honesty in business.	78.0			78.0
Be able to make clear the importance of being sincere while having relations with relatives.	86.5			86.5
Be able to make clear the rights of the orphans.	46.3	73.0		59.7
Be able to describe about the education and training given to Muhammad Bin Qasim.		44.0	85.0	64.5
Be able to describe the family background of Hazrat Fatima (R.A).	7.0	54.8		30.9
Be able to explain virtuous worldly deeds, necessary for success in hereafter.			30.0	30.0
Be able to describe the rights of the widows.	52.0		3.0	27.5
Be able to describe the rights of the disable persons.	53.8			53.8
Be able to explain the Quranic teachings, regarding Justice.	38.0	28.0		33.0
Be able to describe the meaning of steadfastness, with some detail.		3.0		3.0
Be able to describe the meaning of Good social Dealing.		79.0		79.0
Be able to give the meaning of fulfillment of promise (Efa e Ehad) with some detail.		87.0		87.0
Be able to give the meaning of Forgiveness (Afwo darguzar) with detail.		97.0		97.0
Make clear the concept of Holy Prophet (PBUH) as a teacher.		3.0		3.0
Be able to describe the importance of law.			1.0	1.0
Be able to give introduction to Hazrat Isa (A.S).		95.0		95.0
Make clear the importance of fasting in the light of the sayings of the Holy Prophet (PBUH).			44.7	44.7

Be able to tell the responsibilities of parents and children, in the light of the Holy Quran and sayings of the Holy Prophet (PBUH).	56.0			56.0
Be able to describe the meaning of jihad with some detail.		47.2		47.2

URDU				
Be able to read the text passage, considering its elements, results, relation of cause and effect and speed of reading (quiet and loud voice), central idea and its illustrative references.	81.2	84.1	84.3	83.2
Be able to read the central idea of any literary piece by comprehending it.	83.5	68.7		76.1
Be able to read by comprehending the technique of the writer, purpose and way of expression in any story, drama, essay etc.	71.6	76.8	79.5	75.9
Be able to read with comprehension, the news, features, editorials, reports, advertisements and letters written to Editor, published in newspapers, magazines and periodicals.	69.8	73.8	78.5	74.0
Be able to write the prose piece or poem in one's own words.			56.9	56.9
Be able to employ and make part one's own observation, knowledge, affairs, thinking and care, in writing any essay, that too in a simple way, and be able to write at least three paragraphs.			63.2	63.2
Be able of writing and sending the report of any happening/incident to the Newspaper /police station or responsible officer. Be able to write an application to higher authorities or district administration, with regard to some of the requirements of school.			71.5	71.5

Be able to write a dialogue on any general topic.			55.1	55.1
From two or more aspects occurring at the turning of any story, be able to select any one of them.			64.3	64.3
Be able to change passive voice sentences to active voice sentences.		86.3		86.3
Be able to differentiate in the term Alliteration in meaning.			78.3	78.3
Be able of making journey mentally from meaning to words (with the help of the Thesaurus).		77.4		77.4
Make learn the usage of the idiomatic expressions and of the proverbs.			67.8	67.8
Be able to correct the wrong sentences with regard to the usage of Rooz Marrah (the words language specialists use often) and the idiomatic way.		67.0	64.0	65.5
Be able to use properly the maxims and sayings in writing.		76.0		76.0
Be able of word forming with the help of the prefixes and suffixes.			75.5	75.5
Be able of word forming with the help of the prefixes and suffixes.			78.0	78.0
Be able to arrange words with regard to the Alliteration.		78.4		78.4

SCIENCE				
Describe the structure and functions of the nervous system.	51.0		36.3	43.6
Explain reflex action with an example.		48.6	32.6	40.6
Differentiate between voluntary and involuntary actions they have experienced.	91.0	79.0	76.0	82.0
Draw and label human excretory system.	70.9	62.1	36.5	56.5
Describe the role of kidney in excretion of waste.		48.8		48.8

Suggest techniques to cure problems of kidneys.	93.0	84.0	60.0	79.0
Differentiate between mitoses and meiosis.	71.0	69.0		70.0
Identify DNA and chromosomes in the cell diagram.	87.0	74.0		80.5
Define heredity and recognize its importance in transferring of characteristics from parents to off springs		77.0		77.0
Identify the characteristics that can be transferred from parents to off springs.		60.6		60.6
Compare characteristics related to ear and eye color.			33.5	33.5
Describe the relationship between DNA, genes and chromosomes.		46.3		46.3
Define bacterium.	84.0			84.0
Explain how genes are introduced into a bacterium	58.0	68.5	27.8	51.4
List some biotechnological products used in daily in life	72.3	52.0		62.2
Explain the sources, properties and harmful effects of air pollution.	63.0	52.4		57.7
Identify human activities that have long-term adverse consequences on the environment.		91.0		91.0
Explain the importance of local and global conservation of natural resources.	82.0		91.0	86.5
Suggest ways in which individuals, organizations and government can help to make earth a better place to live.		91.0		91.0
List problems in human organ systems caused by air pollution.		40.3		40.3
Plan and conduct a campaign that can help reduce air pollution in their environment.			33.1	33.1
Explain the Greenhouse effect.	80.0			80.0

Describe the causes and effects of ozone depletion.	67.0		74.0	70.5
Carry out a research to explain global warming and its likely effects on earth.			71.0	71.0
Explain the formation of acid rain and identify its consequences on living and nonliving things.	70.5	48.8	41.0	53.4
Define chemical reactions and give examples.		54.6		54.6
Explain the balancing of a chemical reaction.	71.0			71.0
Define the law of conservation of mass.	56.0	30.0		43.0
Explain the types of chemical reactions with example.	64.0	51.1	48.0	54.4
Describe the properties of acids, alkalis and salts.	15.0	61.0	44.1	40.0
Explain the uses of acid, alkali and salt in daily life.		55.0	37.3	46.1
Use indicators to identify acids, alkalis and neutral indicators.	52.0	40.0	62.5	51.5
Define the term Pressure.	59.0	43.0		51.0
Identify the units of pressure.	78.0		73.5	75.8
Explain hydraulics and hydraulic system by giving examples.			83.0	83.0
Describe the causes of gas pressure in a container.	57.0			57.0
Identify the application of gas pressure.	57.5			57.5
Describe the term atmospheric pressure.	79.0	51.3		65.1
Define a physical quantity with examples.	87.0			87.0
Apply the prefixes milli-, kilo-, centi-, and interpret the units.	67.5			67.5
Select and use measuring instruments.		60.3		60.3
Measure the volume of liquid by reading correct meniscus.		53.0		53.0
Describe the sources and effects of heat.		71.0	79.0	75.0

Explain thermal expansion of solids, liquids and gases.	66.5			66.5
Explore the effects and applications of expansion and contraction of solids.	30.0	56.0	26.8	37.6
Explain the peculiar behavior of water during contraction and expansion.		67.5		67.5
Investigate the processes making use of thermal expansion of substance.	57.5	40.3	59.0	52.3
Differentiate between the different types of lens.	52.5	48.3	21.0	40.6
Describe the image formation using a lens by ray diagram.	61.0			61.0
Compare and contrast the working of a human eye with the lens camera.		36.0		36.0
Investigate how eyes get used to darkness after sometime.			59.0	59.0
Explain how lenses are used to correct short sightedness and long sightedness.	50.0	34.6	17.3	34.0
Design an experiment to generate electricity.	51.5			51.5
Identify the simple devices that generate electricity in daily life.		55.0		55.0
Design and demonstrate the working of a power station.	21.3	40.3		30.8
List types of energy being used in power stations.	86.0	71.0		78.5
Relate problems involved in generating electricity.	55.3	30.0		42.7
Describe basic component of an electronic system.	53.0	52.0		52.5
State how output component in various devices could be used in their schools and surroundings.		60.0		60.0
Describe development of tools and technologies used in space exploration.	76.5	51.6		64.1
Analyze the benefits generated by the technology of the space exploration.		27.9		27.9
Explain that how do astronauts survive and research in space.	78.0			78.0

Identify the technological tools used in space exploration.	58.7	38.6		48.6
Dengue	85.5	68.0		76.8

MATHEMATICS				
Find power set $P(A)$ of a set A .	94.0			94.0
Find square root of - a natural number (e.g. 16, 625, 1600), - a common fraction (), - a decimal (e.g. 0.01, 1.21, 0.64), given in perfect square form, by prime factorization and division method.	89.0	92.0		90.5
Find square root of a number which is not a perfect square (e.g., the numbers 2, 3)	76.0			76.0
Recall constant, variable, literal and algebraic expression.	80.0			80.0
Add, subtract and multiply polynomials.		73.7		73.7
Recognize the formulas: $(a + b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$, $(a - b)^3 = a^3 - 3a^2b + 3ab^2 - b^3$, and apply them to solve the problems like: - Find $x^3 +$ and $x^3 -$ when the value of $x \pm$ is given.		57.3		57.3
Define proper ($\subset$) and improper ($\subseteq$) subsets of a set.			46.0	46.0
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.	51.6	49.7		50.6
Construct a regular hexagon when a side is given.			49.0	49.0

Calculate mean waited mean, median and mode for ungrouped data.		22.1	19.6	20.8
Find a subset of a set.		83.0		83.0
Recognize rational and irrational numbers.	88.0			88.0
Solve real life problems related to banking and finance.			44.0	44.0
Recognize polynomial in one, two and more variables.	80.0			80.0
Factorize expressions of the following types: • $ka + kb + kc$, • $ac + ad + bc + bd$, • $a^2 \pm 2ab + b^2$, • $a^2 - b^2$, • $a^2 \pm 2ab + b^2 - c^2$.		56.2		56.2
Define regular pentagon, hexagon and octagon.	63.0			63.0
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. • Pair of interior angles on the same side of transversal is supplementary, and demonstrate them through figures.	29.5			29.5
Find the surface area and volume of a sphere.	65.0		26.1	45.6
Describe the measures of central tendency.	26.2			26.2
Verify commutative and associative laws with respect to union and intersection.		30.7		30.7
Solve real life problems involving compound proportion, partnership and inheritance.			58.9	58.9

Solve real life problems regarding life and vehicle insurance.			22.3	22.3
Solve right angled triangles using Pythagoras theorem.		69.0	36.8	52.9
Find perfect square of a number.	92.5			92.5
Use the following rule to determine the number of digits in the square root of a perfect square. Rule: Let n be the number of digits in the perfect square then its square root contains digits if n is even, digits if n is odd.	78.3			78.3
Recognize cubes and perfect cubes.		80.5		80.5
Convert a number from decimal system to a system with base 2, 5 and 8, and vice versa.		68.5		68.5
Add, subtract and multiply numbers with base 2, 5 and 8.		79.8		79.8
Solve simultaneous linear equations using • method of equating the coefficients, • method of elimination by substitution, • method of cross multiplication.		65.0		65.0
Define a polygon.	81.0	47.0		64.0
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.	31.5	37.9	46.9	38.7
Solve real life problems involving square roots.		83.0	37.3	60.1
Add, subtract and multiply numbers with different bases.		44.5		44.5
Recall the formulas: • $(a + b)^2 = a^2 + 2ab + b^2$, • $(a + b)^2 = a^2 + 2ab + b^2$, • $(a - b)^2 = a^2 - 2ab + b^2$,		44.5		44.5

• $a^2 - b^2 = (a - b)(a + b)$, and apply them to solve problems like: • Evaluate $(102)^2$, $(1.02)^2$, $(98)^2$ and $(0.98)^2$. • Find x^2 and x^4 when the value of $x \pm$ is given				
Solve real life problems involving two simultaneous linear equations in two variables.			17.5	17.5
Construct a kite when two unequal sides and a diagonal are given.			25.9	25.9
Construct frequency table.		36.7	25.1	30.9
Recognize set of • natural numbers (N), • whole numbers (W), • integers (Z), • rational numbers (Q), • even numbers (E), • odd numbers (O), • prime numbers (P).	81.5			81.5
Find cube roots of a number which are perfect cubes.	85.0	90.5		87.8
Convert Pakistani currency to well-known international currencies.			31.7	31.7
Find percentage discount.			19.8	19.8
Find percentage profit and percentage loss.			50.6	50.6
Recognize polynomials of various degrees (e.g., linear, quadratic, cubic and biquadratic polynomials).	40.5			40.5
Recognize simultaneous linear equations in one and two variables.	78.0			78
Eliminate a variable from two equations by: • Substitution, • application of formulae.		62.7		62.7
Find the surface area and volume of a cone.			43.6	43.6

Demonstrate union and intersection of three overlapping sets through Venn diagram.	43.6	31.7	28.4	34.5
Divide a polynomial by a linear polynomial.		49.7		49.7
Construct a rectangle • when two sides are given. • when the diagonal and a side are given.			41.4	41.4
Construct a histogram representing the frequency table.	88.0	74.0	49.4	70.5

ANNEX III: WEAK SLOs

Weak Students Learning Outcomes (SLOs) found to be weakest in terms of student achievement as revealed by results of PEC Exam 2018 have been listed below. Students were able to score less than 40.00% mean percentage score in these SLOs. As these SLOs seem to be particularly challenging for the students to perform, teachers should take them up in teaching on priority basis and try to identify the causes of difficulty. In Grade 5 weak SLOs are found in the subjects of Islamiat (15), Science (5) and Mathematics (2). In grade 8 weak SLOs are found in the subjects of Islamiat (19), Mathematics (12) and Science (7). It is observed that weak SLOs are from all domains of cognitive levels.

Student Learning Outcomes	Subject	Cognitive Level	Mean % Score
Grade 5			
Be able to describe the social benefits and rewards of 'Afwo Darguzar' (forgiveness).	Islamiat	Understanding	11
Be able to describe the miracles given to Hazrat Isa (A.S).	Islamiat	Knowledge	11
Be able to tell about the conquests made during the period of Hazrat Usman (R.A).	Islamiat	Understanding	13.8
Be aware to the duty of preaching and invitation of that of Hazrat Isa (A.S), and the wisdom by which he used to preach.	Islamiat	Understanding	19
Be able to make clear the importance of fulfilling the promise, in the light of the Holy Quran and sunnah of the Holy Prophet (PBUH).	Islamiat	Understanding	19.69
Be able to make clear the 'Afwo Darguzar'(forgiveness), in the light of the Holy Quran.	Islamiat	Understanding	25.25
Evaluate the lesson which the Battle of Trench has for the Muslims of today.	Islamiat	Application	30.5
May reach to the conclusion with regard to the effects of the Charter of Madina.	Islamiat	Understanding	30.77
Be able to tell about the services of Hazrat Khalid bin Waleed, rendered for Islam.	Islamiat	Understanding	31.08

Be able to make clear the importance of tolerance, in the light of the examples of the companions of the Holy Prophet Hazrat Muhammad (PBUH).	Islamiat	Application	32.64
Give the introduction to Juma'prayer.	Islamiat	Application	33.61
Make clear the conditions of the Charter of Madina.	Islamiat	Knowledge	34.25
Be able to make clear 'Afwo Darguzar' (forgiveness) in the light of the live actions from the life of our Holy Prophet (PBUH).	Islamiat	Application	34.75
Be able to describe the reasons of the Battle of Trench.	Islamiat	Understanding	35.66
Be able to know about the biography of Hazrat Usman (R.A).	Islamiat	Understanding	39
Read a simple bar graph given in horizontal and vertical form.	Mathematics	Application	25
Solve real life problems involving direct and inverse proportion (by unitary method).	Mathematics	Application	37.7
Investigate that light travels in a straight line.	Science	Application	10
Suggest ways to reduce the impact of non-biodegradable materials.	Science	Application	33
Describe the role of evaporation and condensation in the water cycle.	Science	Application	34.8
Explain the production of static electrical charges in some common materials.	Science	Application	36.6
Explain the impact of non-biodegradable materials on the environment.	Science	Application	39.7

Grade 8

Be able to make clear the Quranic injunctions, regarding forgiveness.	Islamiat	Knowledge	1
Be able to describe the importance of law.	Islamiat	Application	1
Be able to describe (give detail) the Rituals of Pilgrimage (Manasik e Hajj).	Islamiat	Application	2
Be able to describe 'Amr Bil Ma'roof Wa Nahi Anil Munkar', with reference to sayings of the Holy Prophet (PBUH).	Islamiat	Application	2
Be able to describe the meaning of steadfastness, with some detail.	Islamiat	Understanding	3
Make clear the concept of Holy Prophet (PBUH) as a teacher.	Islamiat	Understanding	3

Be able to describe the importance of fulfillment of promise, in the light of the Holy Quran and sayings of the Holy Prophet (PBUH).	Islamiat	Understanding	4
With regard to preaching, be able to make characteristics cleared of the prudential style of preaching of the Holy Prophet (PBUH).	Islamiat	Application	5
Be able to make clear the importance of pilgrimage.	Islamiat	Understanding	7
Be able to tell the meaning of sincerity (Ikhlas).	Islamiat	Understanding	10
Be able to describe the purpose of jihad.	Islamiat	Application	24.3
Be able to describe the rights of the widows.	Islamiat	Application	27.5
Be able to explain virtuous worldly deeds, necessary for success in hereafter.	Islamiat	Application	30
Be able to describe the family background of Hazrat Fatima (R.A).	Islamiat	Knowledge	30.9
Be able to explain the Quranic teachings, regarding Justice.	Islamiat	Application	33
Be able to make clear the concept of life hereafter.	Islamiat	Application	33.6
Be able to describe Quranic injunctions, regarding 'Amr Bil Ma'roof Wa Nahi Anil Munkar'.	Islamiat	Application	34
Be able to narrate sayings of the Holy Prophet (PBUH), regarding Khashiat e Elahi.	Islamiat	Knowledge	36.7
Be able to make responsibilities clear of that of husband and wife, in the light of the Holy Quran.	Islamiat	Understanding	40.1
Solve real life problems involving two simultaneous linear equations in two variables.	Mathematics	Application	17.5
Find percentage discount.	Mathematics	Application	19.8
Calculate mean waited mean, median and mode for un grouped data.	Mathematics	Application	20.8
Solve real life problems regarding life and vehicle	Mathematics	Application	22.3
Construct a kite when two unequal sides and a diagonal are given.	Mathematics	Application	25.9
Describe the measures of central tendency.	Mathematics	Knowledge	26.2
Describe the following relations between the pairs of angles when a transversal intersects two parallel lines. • Pairs of corresponding angles are equal.	Mathematics	Knowledge	29.5

• Pairs of alternate interior angles are equal. 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	Application	30.7
Construct frequency table.	Mathematics	Application	30.9
Convert Pakistani currency to well-known international currencies.	Mathematics	Application	31.7
Demonstrate union and intersection of three overlapping sets through Venn diagram.	Mathematics	Application	34.5
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	Application	38.7
Design and demonstrate the working of a power station.	Science	Knowledge	30.8
Plan and conduct a campaign that can help reduce air pollution in their environment.	Science	Application	33.1
Compare characteristics related to ear and eye color.	Science	Application	33.5
Explain how lenses are used to correct short sightedness and long sightedness.	Science	Application	34
Compare and contrast the working of a human eye with the lens camera.	Science	Understanding	36
Explore the effects and applications of expansion and contraction of solids.	Science	Application	37.6



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