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Result Performance Analysis and Computation for Polytechnic Sector of J&K

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ABSTRACT

The conduction of examination, then evaluation followed by result compilation is the basic task for any examination board. The Computation of Result Analysis is one of the primary and important tasks for the Jammu andKashmir State Board of Technical Education. It forms the basis of the academics and is quite helpful in policy decisions of the board and the institutes (polytechnics) for the betterment of the students by depicting theiroverall academic picture quality besides giving the comparison w.r.t other students/institutes.

Keywords: The Jammu and Kashmir State Board of Technical Education (JKSBOTE); Software Engineering; Result Analysis ; Polytechnics of Jammu and Kashmir; Analysis Computation.

I. INTRODUCTION

For any school, college or other educational institutes like Polytechnic Colleges of J&K India, students are an important asset to produce skilled human resource out of these with great quality who excel in academics, practical knowledge, self-development and innovative thinking. For achieving this, it is very much necessary to analyze the performance of the candidates at various levels. The Performance measurements help in the overall development of the candidates besides it helps all the stakeholders to take appropriate corrective measures to address the issues that can be interpreted from the collective analysis and further strengthen the areas in which the students are already good. The performance levels can be

1. Individual,where in the student gets to know his/her result subject wise and overall result.
2. Subject Wise: The total numbers of subjects that are being taught in the various polytechnics of J&K are 589 across various streams. In this part of the overall analysis the performance of students is checked subject wise which gives a reflection about the various subjects in which the candidates require more attention
3. Branch Wise: There are 18 Courses (Diploma Programmes) that are being offered in the various polytechnics in the state of Jammu and Kashmir and the analysis is performed across the various branches.
4. InstituteWise : There are 31 Polytechnic institutes currently in the state of Jammu and Kashmir and getting the result analysis of the colleges helps in categorizing the institutes in terms of quality output besides it would help new students to opt for the institutes and also results in the overall

II. METHODOLOGY FOR COMPUTATION OF ANALYSIS

The various levels already defined are computed by different mechanisms.

Individual Level:

For each student, the process of result compilation is a very cumbersome and hectic process. Every subject

is distributed into three components; ***Sessional, Practical and Theory***. There are different ways for each of these components for the compilation. For Sessional Component, Pre Filled Excel Sheets are sent to the institutes. The Excel Sheets contain the student details and subject details in them. The Institutes edit the same sheets and update the sessional marks against the concerned subjects/students and revert back the updated excel sheets to the board. All the excel sheets from all the institutes are consolidated in a single sheets and then all the data is migrated in the SQL database and then through customized php scripts ,the data is linked to the sessional component of individual students. For Practical each examiner has been provided an unique id and password and an automation system has been developed through which the examiner submits the marks, the data is being stored in the cloud server and then migrated to the result processing server and linked to the students' practical component. For Theory component, the complex system of decoding and coding is implemented where in every sheet is coded and then through customized mechanisms, the marks are entered against the code followed by the process of decoding in which the roll numbers are entered against the codes and then the final process of linkages of marks of theory component against the roll numbers.

After marks of all the components of all subjects are added against all the students whose result is to be declared, the final result of each candidate is calculated and then the result is saved and a result register and result gazette are generated. The result register remains the final product of the result processing in the board. The sample broad result register is shown as Figure 1.

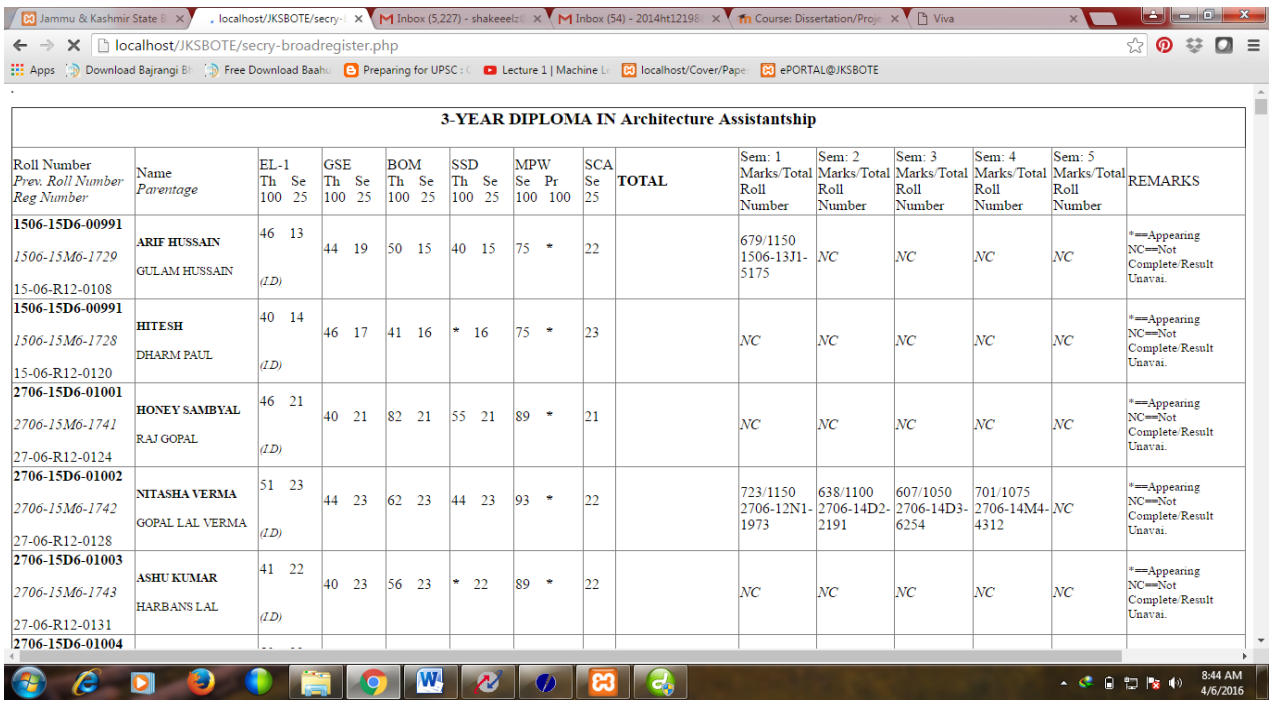

Figure 1. Sample Result Register Page

Subject Level Result Analysis Computation:

For each subject, the total number of students that have appeared is calculated. The computation is performed from the **ResultDetailed** relation of the database. Then again the total number of students who have passed and failed is computed and the process is repeated for every subject that is being taught and the analysis is performed across institutes as well to get an overall analysis in comparison to institutes. The sample analysis for each subject analysis is as shown in Figure 2.

Branch Level Result Computation:

For each Programme, the total number of students is calculated and then their overall result is computed and depending upon that the analysis is performed and also the performance of students across different branches is computed. A sample result analysis across branches is shown in Figure 3.

Institute Level Result Computation:

For each Institute, the total number of students appeared is computed followed by the computation across branches in the concerned institute. The Comparison across overall institutes is also computed which helps to analyses the position of the institute in comparison with other colleges and average. Figure 4 shows an overall sample screen shots of the result analysis at institute level.

Programme:	Three Years Diploma in Architecture Assistantship					
SubjectNAme	THEORY APPEARED	THEORY PASSED	THEORY PASS PERCENTAGE	PRACTICAL APPEARED	PRACTICAL PASSED	PRACTICAL PASS PERCENTAGE
ENGLISH AND COMMUNICATION SKILLS-I	68	31	45.59%	53	47	88.68%
APPLIED MATHEMATICS-I	78	17	21.79%	NA		
APPLIED CHEMISTRY-I	70	37	52.86%	52	48	92.31%
APPLIED PHYSICS-I	83	20	24.1%	52	47	90.38%
FREE HAND SKETCHING	52	41	78.85%	NA		
MODEL MAKING	NA			52	45	86.54%
ARCHITECTURAL DRAWING -I	55	50	90.91%	53	48	90.57%
STUDENT CENTERED ACTIVITIES	NA			NA		

GOVT. POLYTECHNIC COLLEGE BARAMULLA

Three Years Diploma in Architecture Assistantship

ProgrammeName:	Three Years Diploma in Architecture Assistantship					
SubjectNAme	THEORY APPEARED	THEORY PASSED	THEORY PASS PERCENTAGE	PRACTICAL APPEARED	PRACTICAL PASSED	PRACTICAL PASS PERCENTAGE
ENGLISH AND COMMUNICATION SKILLS-I	38	16	42.11%	31	28	90.32%
APPLIED MATHEMATICS-I	40	9	22.5%	NA		
APPLIED CHEMISTRY-I	40	25	62.5%	30	28	93.33%
APPLIED PHYSICS-I	49	13	26.53%	30	27	90%
FREE HAND SKETCHING	30	20	66.67%	NA		
MODEL MAKING	NA			30	27	90%
ARCHITECTURAL DRAWING -I	33	31	93.94%	30	27	90%
STUDENT CENTERED ACTIVITIES	NA			NA		

Figure 2. Subject Wise Result Analysis, source: JKSBOTE

Branch	Appeared	Passed	PassPercentage
AUTOMOBILE	117	65	56
CIVIL	1000	580	58
COMPUTER	347	127	37
ELECTRICAL	833	323	39
ELECTRONICS	318	125	40
MECHANICAL	527	136	26

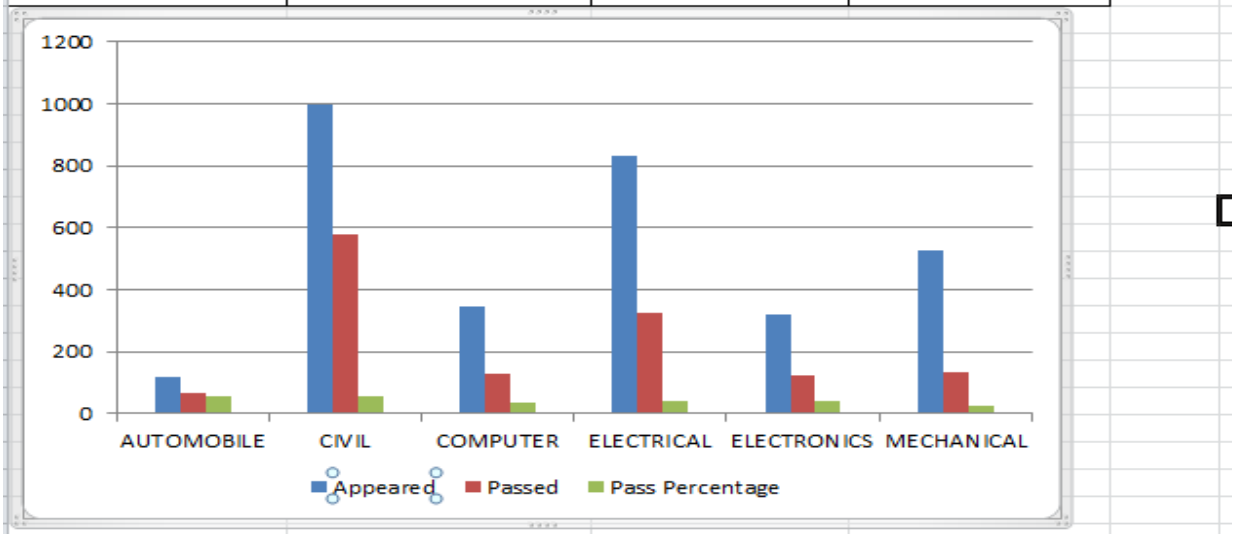

Figure 3. Branch Wise Result Analysis

Programme/Institute	XXXXXXXX POLYTECHNIC SRINAGAR			YYYYYY POLYTECHNIC SRINAGAR			XXXX POLYTECHNIC JAMMU		
	Appeared	Passed	Pass %age	Appeared	Passed	Pass %age	Appeared	Passed	Pass %age
TOTAL	15	8	53.33%	66	31	46.97%	79	29	36.71%
Civil Engineering	37	7	18.92%	.....			45	10	22.22%
ELECTRICAL ENGINEERING	17	8	47.06%	.....			47	20	42.55%
MECHANICAL ENGINEERING	5	2	40%	.....			20	9	45%
Electronics and Communication Engineering	11	3	27.27%	.....			25	12	48%
Automobile Engineering	.....			.....			.....		
Architecture Assistantship	.....			.....			5	1	20%
Computer Engineering	2	1	50%	3	2	66.67%	3	2	66.67%
TOTAL	72	21	29.17%	17	4	23.53%	151	55	36.42%

Figure 4. Institute Level Result Analysis

InsituteID	Appeared	Passed	Pass Percentage
GR01100017	69	30	44
GR01100018	83	28	34
GR01100024	79	39	50
GR01100026	66	31	47
GR01100031	72	45	63
GR01100032	72	41	57
GR01100038	74	40	55
GR01100040	69	36	53
GU01100011	74	55	75
GU01100015	71	30	43
PU01100019	71	31	44
PU01100020	71	26	37
PU01100021	165	46	28
PU01100027	231	56	25
PU01100028	122	35	29
PU01100030	90	10	12
PU01100041	11	1	10

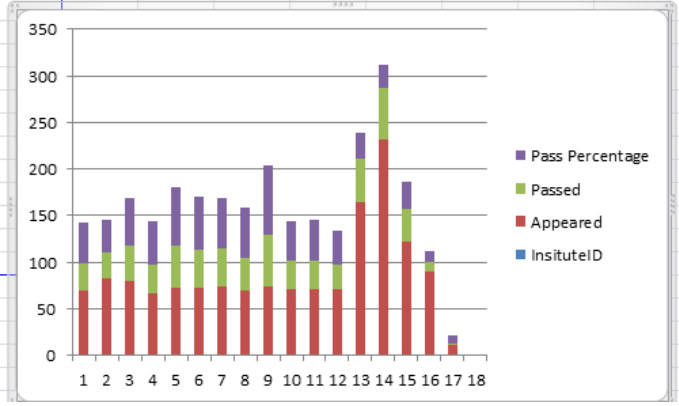

Figure 5. Institute Level Result Analysis for a particular branch; source: JKSBOTE

III. CONCLUSION

In this paper result analysis of different polytechnics was computed at various levels and a comparative analysis was also carried out across various subjects/branches/institutes besides the process of computation was also done.

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