

# Evaluation of PSO/PO/CO

## Introduction:

Outcome based education (OBE) is education in which an emphasis is placed on a clearly articulated idea of what students are expected to know and be able to do, i.e., what skills and knowledge they need to have, when they leave the HEI.

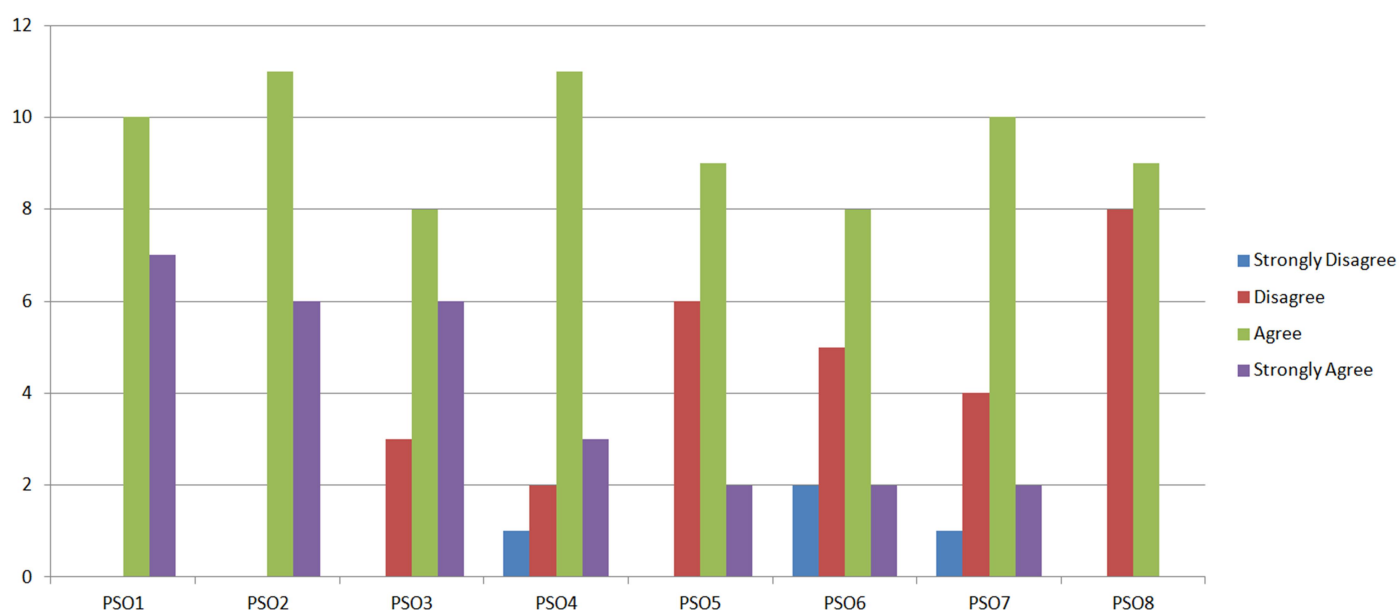
The data of complete 2020-2022 batch of all the post graduate courses was analysed. The eight post graduate courses offered by our prestigious college are English, Maths, Geography, Physics, Chemistry, Hindi, Commerce and Political Science under CBCS. Data was considered and therefore both direct and indirect tools were used in the analysis, wherein assignments, class tests and end semester exams constitute the direct tools and exit survey/curriculum feedback and parents' feedback are part of the indirect tools. It is highly pertinent to highlight that, our analysis gives 80% weightage to direct tools and 20% to indirect tools. Furthermore, assignment and class tests accounts for 20% weightage in direct tools and end semester exams accounts for 80%. Similarly, parents' feedback accounts for 20% weightage in indirect tools and exit survey/curriculum feedback accounts for 80%.

The subject wise attainment, achievement and methods for improvement in the respective subjects are illustrated herein below, in brevity:

## English

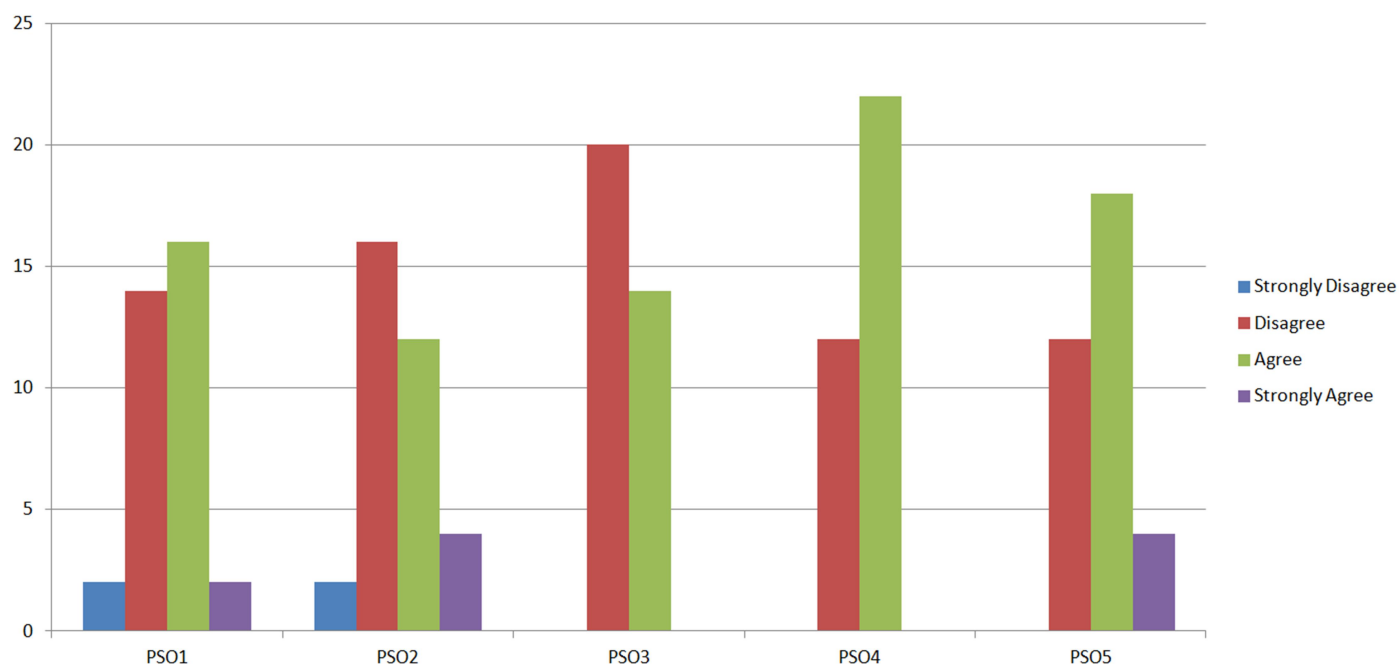
	Mapped value	Attained value	Achievement	Improvement
PSO1	1.40	0.95	67.62%	<ul style="list-style-type: none"><li>To improve work performance planning and prioritizing of syllabus is important.</li><li>To convey the right information communication tools like discussion, real-time notification should be implemented.</li></ul>
PSO2	1.49	0.98	65.81%	<ul style="list-style-type: none"><li>Students should be encouraged to write research papers and attend national/international seminars and workshops.</li><li>For better understanding there should be remedial classes.</li></ul>
PSO3	1.46	0.93	63.87%	<ul style="list-style-type: none"><li>To boost creative potential in students they should be motivated and inspire to</li></ul>

				express their potential in different artistic ways. i.e. college magazine and department newsletters or any media.
PSO4	1.45	0.89	61.67%	<ul style="list-style-type: none"> <li>To connect students to their culture there should be activities that involve them/connect them with their cultural context i.e. Regional text reading, cultural fests etc.</li> </ul>
PSO5	1.49	0.88	59.36%	<ul style="list-style-type: none"> <li>To boost their self-confidence and positive attitude there should be motivated lectures and guidance prospect.</li> </ul>
PSO6	1.41	0.94	66.70%	<ul style="list-style-type: none"> <li>To develop teacher-taught relation smooth be used it increase Audio-Visual aids should be used it increase students' interest in studies that keep them keep in memory for long.</li> </ul>
PSO7	1.45	0.87	59.53%	<ul style="list-style-type: none"> <li>To enhance competence in English Language. There should be CAL (Computer Assisted Learning) methodology, Teaching Grammar, Learning of figures of speech and e-books, e-journals.</li> </ul>
PSO8	1.52	1.04	68.44%	<ul style="list-style-type: none"> <li>To enhance logical and analytical ability/approach of students they should be involved in projects and performance activities from their real-life situation.</li> </ul>



## Mathematics

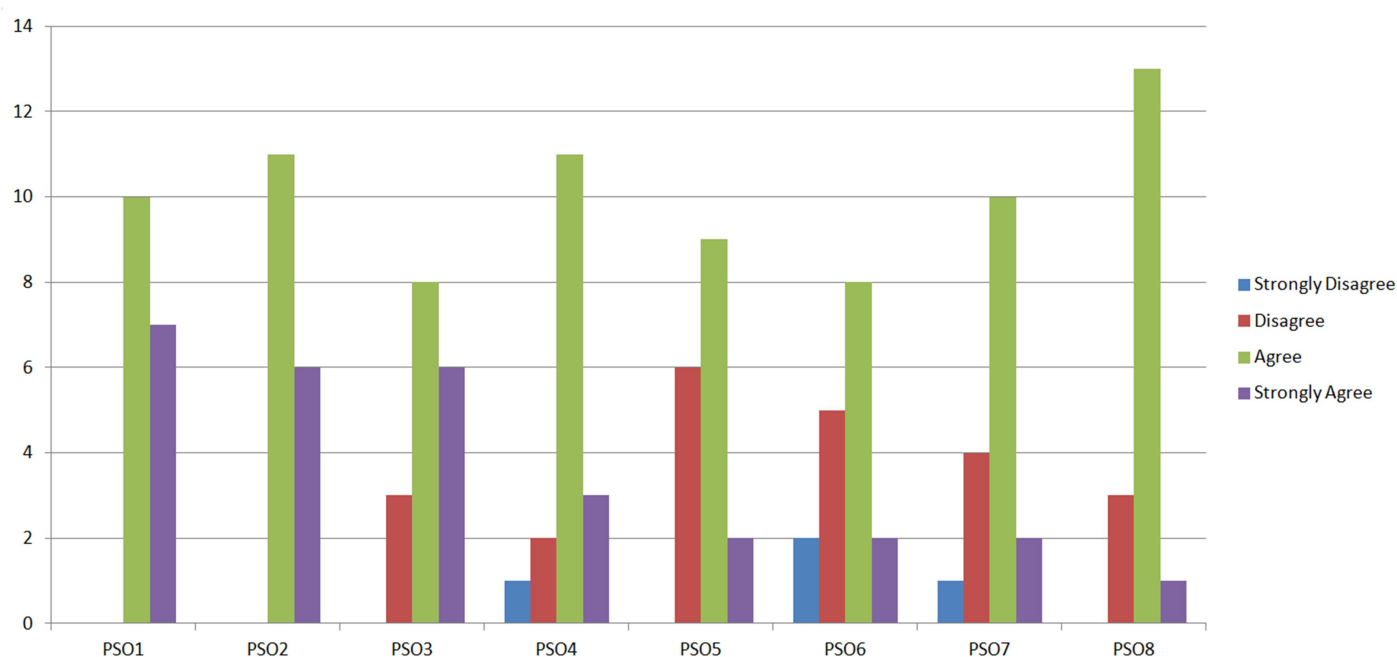
	Mapped value	Attained value	Achievement	Improvement
PSO1	2.01	1.53	75.92%	<ul style="list-style-type: none"> <li>Improve the level of understanding in areas of Pure and Applied Mathematics.</li> <li>Communicate Mathematical Ideas and thoughts to others verbally as well as in written form.</li> <li>Will identify applications of Mathematics in other disciplines, leading to enhancement of career prospects in different fields and research areas as per modern requirement.</li> </ul>
PSO2	2.13	1.59	74.59%	<ul style="list-style-type: none"> <li>Develop analytical skills, critical thinking, creativity, communication and presentation skills through assignments, seminars and projects.</li> <li>Inculcate a research aptitude in the students through project work.</li> </ul>
PSO3	2.17	1.59	73.30%	<ul style="list-style-type: none"> <li>Develop the skill of modeling real world problem into Mathematics problems and find solution in a logical ways.</li> <li>Critically interpret numerical data and graphs arising from physical problem.</li> </ul>
PSO4	2.47	1.80	73.02%	<ul style="list-style-type: none"> <li>Build interest and confidence in the subject to pursue higher studies in Mathematics.</li> <li>Make the topics more relevant to practical problems so that students can apply their skills and knowledge that translate information presented verbally into Mathematical formulas or information and draw the relevant conclusion.</li> </ul>
PSO5	2.18	1.66	75.99%	<ul style="list-style-type: none"> <li>This can be achieved by keeping them focused &amp; motivated, which can be attained by regularly monitoring their progress in class through various means like tests, assignments, class participation/discussion &amp; mock interview. This will also help them in confidence building.</li> </ul>



## Geography

	Mapped value	Attained value	Achievement	Improvement
PSO1	1.49	1.28	85.82%	<ul style="list-style-type: none"> <li>Establish the position of Geography as a subject and its importance and interrelationships that reiterate and validate the environment relationship</li> </ul>
PSO2	1.51	1.26	83.22%	<ul style="list-style-type: none"> <li>Ability to use the state of art geospatial knowledge for resolving the social, economic, cultural and physical factors of the society.</li> <li>Interrelationship between human being and nature as a individual and as whole.</li> </ul>
PSO3	1.47	1.25	84.53%	<ul style="list-style-type: none"> <li>Understanding of the socio-economic and cultural dimension of the population with greater focus on marginalized section of society.</li> </ul>
PSO4	1.12	1.00	89.90%	<ul style="list-style-type: none"> <li>A general understanding of how the physical environment, human societies and local and global economic systems are integral to the principles of sustainable development.</li> </ul>
PSO5	1.63	1.27	77.98%	<ul style="list-style-type: none"> <li>Physical field survey enables the students to understand the landform, geomorphic process.</li> </ul>

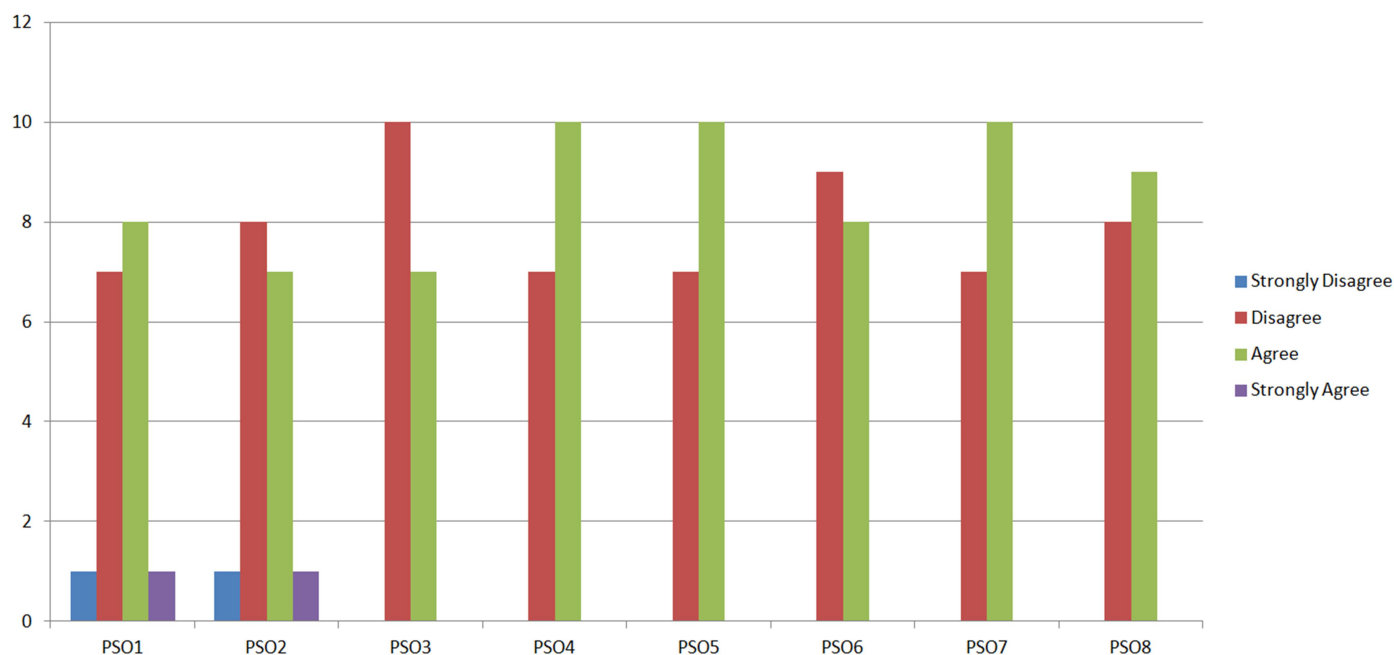
PSO6	1.05	1.01	95.62%	<ul style="list-style-type: none"> <li>They will be able to read, interpret and produce maps and hence can serve as a cartographer in different department-NATMO and will learn how to prepare map based on GIS by using the modern geographical map making techniques.</li> </ul>
PSO7	1.38	1.12	80.75%	<ul style="list-style-type: none"> <li>Understanding the history of the subject over viewing ancient and contemporary geographical thought &amp; its relationship with modern concepts.</li> </ul>



## Physics

	Mapped value	Attained value	Achievement	Improvement
PSO1	1.7	1.32	77.82	<ul style="list-style-type: none"> <li>Every student should know how to apply mathematical basics and its applications on other subjects to enhance the numerical efficiently.</li> <li>To guide the students about the importance of conceptual development of the subject and thereby develop the interest in the subject.</li> </ul>
PSO2	1.48	1.07	72.20	<ul style="list-style-type: none"> <li>To encourage the students for understanding the role and contribution of physics in the present day science</li> </ul>

				and technology.
PSO3	1.77	1.28	72.16	<ul style="list-style-type: none"> <li>• Every student will be able to demonstrate knowledge and understanding the principles of electronics and apply these to construct and design of their own project.</li> <li>• Students will be able to understand the issues related to environment. They can think as well as demonstrate eco-friendly projects to overcome these issues.</li> </ul>
PSO4	1.17	0.97	82.53	<ul style="list-style-type: none"> <li>• To create interest in the subject to continue to work in the field of science and physics in particular.</li> </ul>
PSO5	1.65	1.25	75.90	<ul style="list-style-type: none"> <li>• To create interest in the subject and improve technological aspects through projects, models and activity etc. These tasks make it easier to understand the concepts.</li> <li>• Motivate students to actively involved to write the research papers and participate in different national/international seminars and workshops.</li> </ul>
PSO6	1.56	1.15	74.07	
PSO7	2.02	1.63	80.74	<ul style="list-style-type: none"> <li>• Students will gain the knowledge, develop the new skills using the language like FORTRAN, MATLAB etc. because these help them to acquire a vision for use of computer in research prospective.</li> </ul>
PSO8	2.05	1.60	78.12	<ul style="list-style-type: none"> <li>• To gain experience, investigating the real world problems, educational tour can be conducted.</li> </ul>

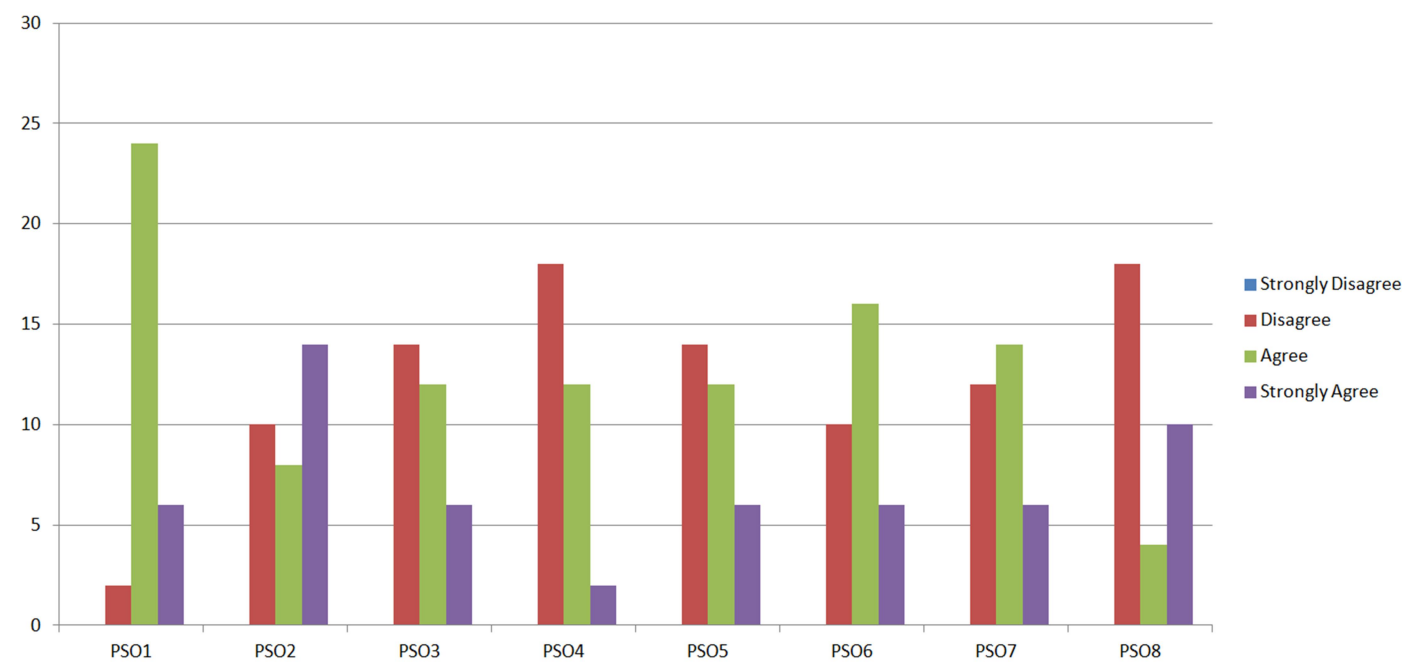


## Chemistry

	Mapped value	Attained value	Achievement	Improvement
PSO1	1.60	1.17	84.46%	<ul style="list-style-type: none"> <li>Understand nature of bonding and hybridization of compounds.               <ul style="list-style-type: none"> <li>In Chemistry, the study of bonding, that is, Hybridization is of prime importance. In order to understand actually should look for models &amp; tools.</li> </ul> </li> </ul>
PSO2	1.66	1.12	78.81%	<ul style="list-style-type: none"> <li>Analyse the reaction mechanism and structure of transition metal complexes.               <ul style="list-style-type: none"> <li>The mechanisms of transition metal reactions are typically inferred from experiments, by data and practice problems. (From high through put screening to Machine Learning)</li> </ul> </li> </ul>
PSO3	1.62	1.12	77.14%	<ul style="list-style-type: none"> <li>Understand the quantum mechanics, thermodynamics and Eletrochemistry.               <ul style="list-style-type: none"> <li>Quantum Mechanics, thermodynamics and Electrochemistry itself are mathematical models. Students should know the UG level fundamental aspects on all along with problems solving.</li> </ul> </li> </ul>

PSO4	1.47	1.05	78.85%	<ul style="list-style-type: none"> <li>Analyse the bonding and stereochemistry of organic molecules.               <ul style="list-style-type: none"> <li>Start from organic chemistry fundamental concepts.</li> <li>Derive standard name reactions mechanism of organic chemistry.</li> <li>Practice &amp; Trick for organic chemistry conversations.</li> </ul> </li> </ul>
PSO5	2.25	1.63	74.11%	<ul style="list-style-type: none"> <li>Understand the various instrumental techniques for structural study of the compounds.               <ul style="list-style-type: none"> <li>Understand good Laboratory practices and instruments.</li> <li>Provide data for structure elucidation of various compounds.</li> </ul> </li> </ul>
PSO6	1.55	1.15	83.95%	<ul style="list-style-type: none"> <li>Perform thermodynamic and surface studies of the liquid mixtures.               <ul style="list-style-type: none"> <li>Develop accurate, fast and reliable graphical representations (Phase diagrams, Future aspects).</li> </ul> </li> </ul>
PSO7	1.42	0.83	73.17%	<ul style="list-style-type: none"> <li>Understand nuclear, radio and analytical techniques and corrosion technology.               <ul style="list-style-type: none"> <li>Advanced reactor designs and awareness.</li> <li>Smarter manufacturing.</li> <li>Tackling the waste issue.</li> </ul> </li> </ul>
PSO8	1.61	1.04	80.80%	<ul style="list-style-type: none"> <li>Analyse the bio-organic, bio-inorganic chemistry and heterocyclic chemistry and their applications.               <ul style="list-style-type: none"> <li>This field is not only limited to natural things but also includes artificially created metals.</li> <li>Study various therapeutic properties-antifungal, anti-tumor, anti-malarial, anti-inflammatory and analgesic activities.</li> <li>Activity in multiple illnesses.</li> </ul> </li> </ul>

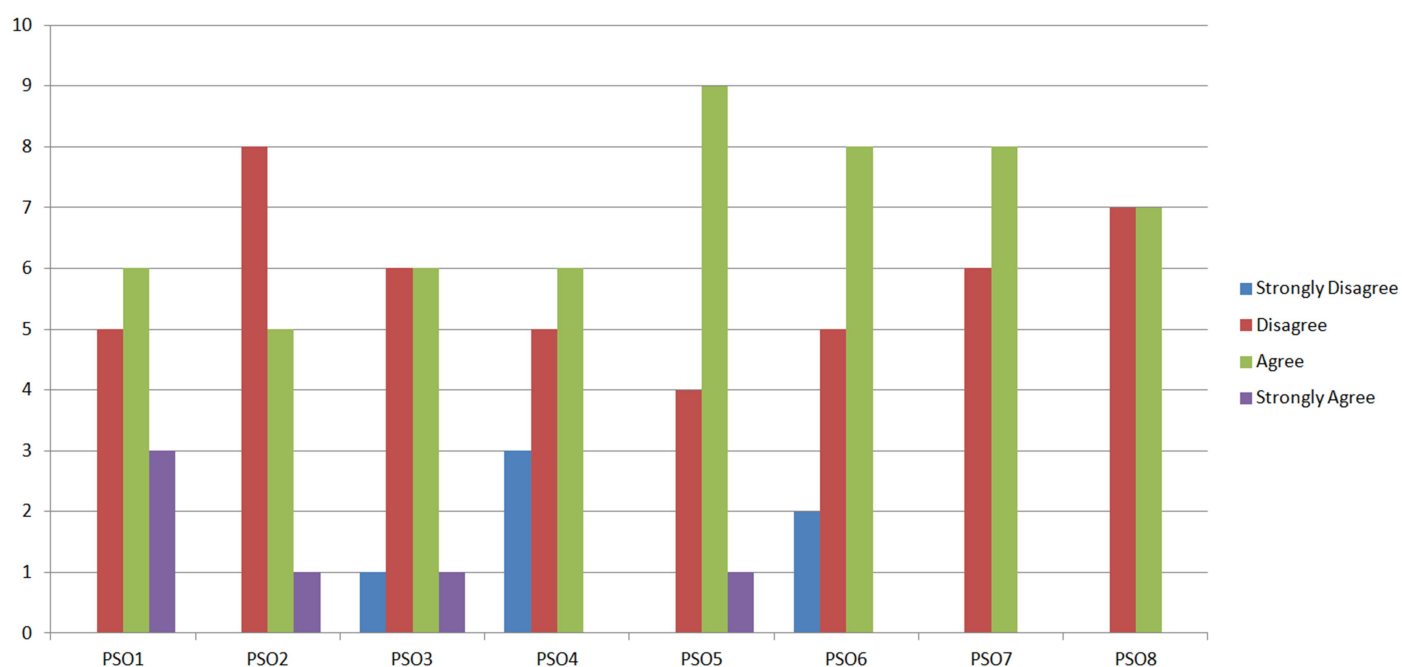




## Hindi

	Mapped value	Attained value	Achievement	Improvement
PSO1	2.20	1.47	66.73%	<ul style="list-style-type: none"> <li>आधुनिक काल में रचित कहानी कला की प्रकृतियों को अन्य कहानियों द्वारा समझना है।</li> <li>आधुनिक काल का समीक्षात्मक विभाजन करना।</li> </ul>
PSO2	2.22	1.42	63.97%	<ul style="list-style-type: none"> <li>आधुनिक काल में रचित ग्राह्य विधाओं द्वारा समाज पर प्रभाव व परिणाम।</li> <li>साहित्य द्वारा समाज का प्रभाव व सामाजिक दर्पण प्रस्तुत करना।</li> <li>हिन्दी साहित्य इतिहास से लेखन विधियों का ज्ञान।</li> <li>साहित्य के क्षेत्र में छात्रों को रचनात्मक कार्यों से जोड़ना।</li> </ul>
PSO3	2.23	1.42	63.81%	<ul style="list-style-type: none"> <li>वास्तविक अधिसूचना जैसे संचार उपकरणों का उपयोग करना।</li> <li>साहित्य को व्यापक रूप से प्रासंगिक बनाने की क्षमता।</li> </ul>
PSO4	2.27	1.41	62.16%	<ul style="list-style-type: none"> <li>बोधविक ज्ञान द्वारा छात्रों को शोध पत्र लिखने के लिए प्रोत्साहित करना व कार्यशील तथा सेमिनार आदि के माध्यम</li> </ul>

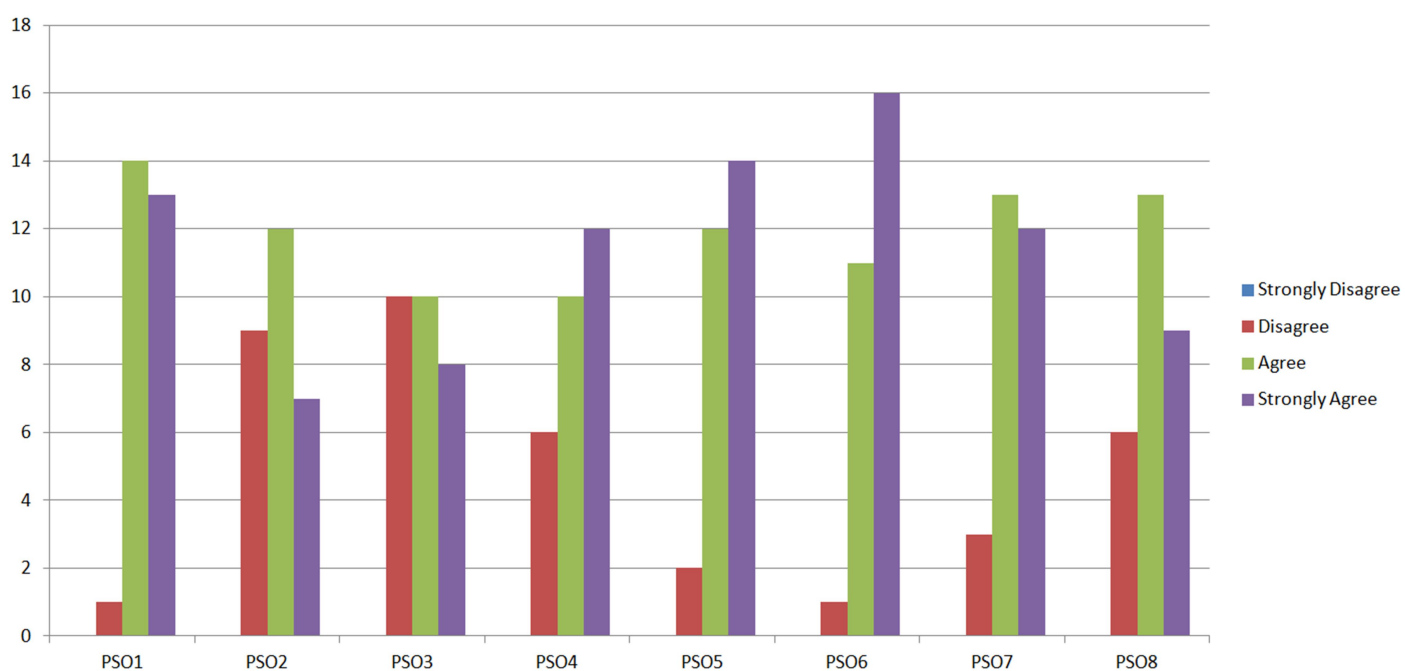
				<p>से छात्रों का सर्वांगीण विकास करना।</p> <ul style="list-style-type: none"> <li>महाविद्यालय और विश्वविद्यालय स्तर पर हिन्दी भाषा व साहित्य पढ़ाने की पात्रता।</li> </ul>
PSO5	2.03	1.36	66.83%	<ul style="list-style-type: none"> <li>भाषागन रूप से रोजगार के लिए क्षमताओं में वृद्धि।</li> <li>आधुनिक काल में रचित हिन्दी कविताओं के माध्यम से सामाजिक तथ्यों का विश्लेषण व अध्ययन।</li> </ul>



## Commerce

	Mapped value	Attained value	Achievement	Improvement
PSO1	2.26	1.36	60.01%	<ul style="list-style-type: none"> <li>• Use case study approach to demonstrate the role of a businessman, entrepreneurs and managers in critical decision making.</li> <li>• Disseminate knowledge about various career options available in the market and skills required to grab these options.</li> </ul>
PSO2	1.46	0.96	65.54%	<ul style="list-style-type: none"> <li>• Develop the power of inquiry, critical analysis, logical thinking and ability to apply theoretical knowledge to current issues related to economy and business.</li> <li>• Core and advanced concept including different economic and management models should coherently explain so that students could analyse the choices made by consumers, investors, firms and government.</li> </ul>
PSO3	1.79	1.1	61.61%	<ul style="list-style-type: none"> <li>• Disseminate knowledge about achievements of successful businessmen and their contributions in various fields</li> </ul>
PSO4	1.97	1.21	61.72%	<ul style="list-style-type: none"> <li>• Develop ability to visualize, conceptualize, analyse and solve problems through experimentation and observation using theoretical concepts of business and commerce.</li> </ul>
PSO5	1.99	1.23	61.74%	<ul style="list-style-type: none"> <li>• For improvement in practical skills in the field of tax consultant, audit assistant etc one needs to have good IT skills and excellent communication skills in addition to strong knowledge in tax law, math, accounting etc. These can be improved through class participation which will also enhance their confidence. Guest lectures by professionals from private as well as govt. side will be organized to achieve the same.</li> </ul>
PSO6	2.33	1.41	60.42%	<ul style="list-style-type: none"> <li>• Develop the ability of defining problem, formulate hypothesis, collect relevant data, develop empirical evidence and interpret the results and its implications.</li> </ul>

				<ul style="list-style-type: none"> <li>Develop understanding about practical applicability of different statistical, mathematical and econometrics tools in different areas.</li> </ul>
PSO7	1.36	1.02	75.06%	<ul style="list-style-type: none"> <li>Develop the ability to work independently as well as effectively in the changing environment.</li> </ul>
PSO8	1.97	1.29	65.86%	<ul style="list-style-type: none"> <li>Develop professional etiquettes and desire to be a lifelong learner.</li> <li>Build skills to work as a part of team and lead others, setting directions and formulate inspiring vision.</li> </ul>



## Political Science

	Mapped value	Attained value	Achievement	Improvement
PSO1	1.94	1.32	67.98%	<ul style="list-style-type: none"> <li>Understand the conceptual, theoretical and applied aspects of the discipline as one of the social sciences with interdisciplinary nature</li> <li>Understand / Imbibe / Develop a command over / Nurture the vocabulary of politics</li> <li>Estimate institutional mechanisms and non-institutional political events and processes and formulate one's view of the same understand the basic concepts and theories pertaining to political science</li> </ul>
PSO2	2.21	1.51	68.40%	<ul style="list-style-type: none"> <li>Systematically organise and communicate thoughts effectively in the preferred medium and language</li> <li>Defend their views and ideas confidently with adequate evidence, be receptive to the views of others and carry forward the dialogue</li> <li>Nurture / Build soft skills like motivation and curiosity for knowledge, written and oral communication, presentation skills, cooperation and team work, multicultural understanding, professionalism, scientific temper and leadership</li> </ul>
PSO3	1.75	1.19	68.07%	<ul style="list-style-type: none"> <li>Build skills for accessing information, listening and reading comprehension, analytical and critical thinking, writing skills</li> <li>Evaluate ideas and processes in terms of their given explanations, think critically, analyse evidence and arrive at their own understanding of the ideas so that they start asking critical</li> </ul>

				questions to the ideas and processes to take up research.
PSO4	1.74	1.23	70.84%	<ul style="list-style-type: none"> <li>• Understand the role of human beings as conscious citizens and realise a constructive citizenship role for themselves inspired by a sense of social responsibility</li> <li>• Explore and understand their inclination and forte in a specific area so as to take up post PG in the discipline, interdisciplinary areas as well as professional courses related to Political Science</li> <li>• Realise the significance of the roles of citizens, administrators and policy makers in effectively implementing rule of law in order to nurture Indian democracy</li> <li>• Apply their learning and skills to policy evaluation and formulation in the area of their choice.</li> </ul>
PSO5	1.76	1.26	71.69%	<ul style="list-style-type: none"> <li>• Deep understanding and explanations, think critically, analyse evidence and arrive at their own understanding of the ideas so that they start asking critical questions to the ideas and processes to take up research.</li> </ul>

