



# ALIGARH COLLEGE OF EDUCATION

NAAC Accredited B, UGC recognized under section 2(f) & 12(B)  
Affiliated to Dr. B.R. Ambedkar University, Agra

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## CRITERIA 2.6.1

### PROGRAM EDUCATIONAL OBJECTIVES AND PROGRAM OUTCOMES

#### B.Ed.: PROGRAM EDUCATIONAL OBJECTIVES

- ❖ To prepare dedicated teachers for improvement of the school education system in the country.
- ❖ To adopt modern techniques for teaching skill development.
- ❖ To train the student teacher towards achieving excellence on academic, social, mental, physical, moral, and cultural fronts.
- ❖ To provide opportunities to enhance their competence and knowledge construction abilities in creating a positive learning atmosphere in schools.
- ❖ Personalized training through Integral Pedagogy and mentoring.
- ❖ All round training that is intellectual, cultural, social, emotional, physical, aesthetic, moral and spiritual.
- ❖ To enable teachers to understand individual differences and guide accordingly.

## **B.Ed.: PROGRAM OUTCOMES**

- ❖ To act as an agent of social change while understanding and appreciating the inter-relationship between our healthy cultural heritage and its impact on education.
- ❖ To provide leadership to the community while utilizing the resources of the local community for the proper development of the school, the students and the community.
- ❖ To facilitate the learning process in the students by means of available learning resources and organizing educational activities and program with special care for learners of specific needs.
- ❖ To show respect and love for the individuality of the child and be just and impartial in his/her dealing with children.
- ❖ To organize various activities of the school for the all-round development of the students by using media and appropriate instructional technologies.
- ❖ To inspire and professionally help the parents for the care and guidance of their wards.
- ❖ To preserve proper balance of his/her life as a person of character, uphold the values of professional commitment and professional ethics and be an example to others with his/her intellectual honesty and moral integrity as well as loyalty to the institution to which he/she belongs.
- ❖ To strive continuously to enrich his/her personality by the life-long process of learning through study and research; uphold his/her teaching as sacred and inviolable.

## **D.EL.ED: PROGRAM EDUCATIONAL OBJECTIVES**

- ❖ Personalized training through Integral Pedagogy and mentoring.
- ❖ All round training that is intellectual, cultural, social, emotional, physical, aesthetic, moral and spiritual.
- ❖ In-service training for primary and elementary teachers.
- ❖ Use of IT communication media and innovative practices.
- ❖ Documentation and Research.
- ❖ Environment education for sustainability.
- ❖ Empowerment of Women.

## **D.EL.ED PROGRAM OUTCOMES**

- ❖ To promote high standards of professional education in students so that they can use their potential to play a critical role in shaping the texture of society & nation as well.
- ❖ Fostering innovative, responsible & systematic integration of technology in education along with humanistic skills.
- ❖ Develop a good understanding, knowledge & technical skills to enable students to measure & manage performance in their concerned organizations.
- ❖ Develop skills for logistic development of learners.
- ❖ Develop skills in all the functional areas of education & management by providing multiple opportunities for experience based learning.
- ❖ Provide such education that will influence thinking and achievements at that work place.
- ❖ Develop good conceptual understanding of contemporary skills & their application.
- ❖ Give an insight into the financial aspects of a business operation.
- ❖ Develop key management & tutorial skills.
- ❖ Build necessary skills, functional knowledge & attitude to enable students to work smoothly in any environment.

## **B.COM: PROGRAM EDUCATIONAL OBJECTIVES**

- ❖ To enable every student to cope up with the latest developments in contemporary, national and global level through effective transaction of the curricular and co-curricular aspects.
- ❖ The College motivates and prepares the students for positions of leadership in business organizations at the local, national and international levels.
- ❖ The College is focused on the all-round development of the students' personality through proper education and exposure to the vast treasure of knowledge; sports facilities and by providing platforms for their socialization.
- ❖ College provides exposure to learners in the latest trends in relevant branches of knowledge, competence and creativity to face global challenges.
- ❖ Socially responsible Citizen: College inculcates a sense of civic responsibility, social commitment, and moral accountability among the students through social activities with exposure to human rights, value system, culture, heritage, scientific temper and environment.
- ❖ Value-based Development: To impart quality and need based education our objective is to sensitize the students to their changing roles in society through awareness raising activities.

## B.COM: PROGRAM OUTCOMES

- ❖ Enables learners to get theoretical and practical exposure in the commerce sector which includes Accounts, Commerce, Marketing, Management, Economics, and Environment etc.
- ❖ Develops communication skills and builds confidence to face the challenges of the corporate world.
- ❖ Enhances the capability of decision making at personal and professional levels.
- ❖ Makes students industry ready and develop various managerial and accounting skills for better professional opportunities.
- ❖ Develops entrepreneurial skills amongst learners.
- ❖ Strengthens their capacities in varied areas of commerce and industry aiming towards holistic development of learners.
- ❖ After completing their graduation learners develop a thorough understanding of the fundamentals in Commerce and Finance.

## B.A: PROGRAM EDUCATIONAL OBJECTIVES

- ❖ To facilitate sound foundational knowledge through innovative educational practices and make students ready for higher education.
- ❖ To inculcate a sense of commitment towards self- determined goals and foster social inclusiveness and sensitivity towards multicultural diversity.
- ❖ To develop a spirit of excellence in academics and the attitude of applying their education for improving the condition of the country.
- ❖ To nurture entrepreneurial bent of mind, leadership and organizational skills and ability to coordinate and work in teams, while developing a sense of social responsibility and multicultural understanding.

## B.A: PROGRAM OUTCOMES

**Disciplinary Knowledge:** Demonstrate a blend of conventional discipline knowledge and its applications to the modern world. Execute strong theoretical and practical understanding generated from the chosen program.

**Critical Thinking and Problem solving:** Exhibit the skill of critical thinking and use higher order cognitive skills to approach problems situated in their social environment, propose feasible solutions and help in its implementation.

**Social competence:** Express oneself clearly and precisely to build good interpersonal relationships in personal and professional life. Make effective use of linguistic competencies to express themselves effectively in real and virtual media. Demonstrate multicultural sensitivity in group settings.

**Personal and professional competence:** Equip with strong work attitudes and professional skills that will enable them to work independently as well as collaboratively in a team environment.

**Effective Citizenship and Ethics:** Demonstrate empathetic social concern and equity centered national development; ability to act with an informed awareness of moral and ethical issues and commit to professional ethics and responsibility.

**Environment and Sustainability:** Understand the impact of the scientific solutions in societal and environmental contexts and demonstrate the knowledge of, and need for sustainable development.

**Self-directed and Life-long learning:** Acquire the ability to engage in independent and life-long learning in the broadest context of socio-technological changes.

### **B.A ENGLISH/HINDI/URDU: PROGRAM SPECIFIC OUTCOMES**

Upon completion of this program the student will be able to-

#### **Academic Competence –**

- a) Understand the basic concepts in language and literature.
- b) Define and distinguish between different concepts studied through their courses.
- c) Perceive linguistic and literary nuances in different types of texts.
- d) Understand the socio-historical significance of literary texts and their evolution through the representative samples contained in the course.
- e) Acquire a more advanced knowledge of language through a study of different branches of linguistics, and the levels of linguistic analysis viz. phonology, morphology, syntax, semantics, and pragmatics.

#### **Personal and Professional Competence –**

- a) Develop communicative competence by honing all the necessary skills, viz. listening, speaking, reading, and writing.
- b) Develop literary competence to appreciate all types of literature, including popular literature.
- c) Articulate their ideas, thoughts, and opinions effectively in a logical and lucid manner and style.
- d) Express themselves effectively through written and spoken modes in individual and group activities, viz. writing for academic/business/professional purposes, personal interviews, group discussions, debates, public speaking, making presentations, writing for different media: print, broadcast, and the web.

#### **Entrepreneurial and Social competence –**

- a) Comprehend the relationship between literature and life.

- b) Integrate the knowledge acquired in the classroom with cross-cutting issues of life, such as human psychology, social and cultural understanding, gender, environment, contemporary social issues, and human values.
- c) Respond sensitively and responsibly to the local and global issues around them, using the insights gained through literature and the values contained in it for solving issues in their personal lives and in society.

### **B.A. GEOGRAPHY: PROGRAM SPECIFIC OUTCOMES**

Upon completion of this program the student will be able to-

#### **Academic Competence:**

a) Demonstrate in-depth knowledge and understanding about the fundamental concepts, principles and theories in various fields of Geography.

#### **Personal and Professional Competence:**

- a) Recognize and understand the various processes in branches of Physical and Human Geography.
- b) Evaluate different theories in Physical and Human Geography with various examples.

#### **Entrepreneurial and Social Competence:**

a) Demonstrates true values of leadership, co-operation, hard work, teamwork, etc. during practical work.

### **B.A. ECONOMICS: PROGRAM SPECIFIC OUTCOMES**

Upon completion of this program the student will be able to-

#### **Academic Competence:**

- a) To understand the behavioural dynamics in Indian and World economy.
- b) To inculcate the ability to explain core economic terms, concepts and theories.

#### **Personal and Professional Competence:**

a) To apply both oral and written communication skills within the discipline.

#### **Entrepreneurial and Social Competence:**

- a) To understand the functioning and implementation of policies.
- b) To think critically about economic matters.
- c) To inculcate and apply communication skills to understand the social scenario and find solutions for social problems.

## **B.A. POLITICAL SCIENCE: PROGRAM SPECIFIC OUTCOMES**

Upon completion of this program the student will be able to -

### **Academic Competence:**

- a) Understand the conceptual, theoretical and applied aspects of the discipline as one of the social sciences with interdisciplinary nature.
- b) Understand / imbibe / develop a command over / Nurture the vocabulary of politics.
- c) Estimate institutional mechanisms and non-institutional political events and processes and formulate one's view of the same.

### **Personal and Professional Competence:**

- a) Systematically organize and communicate thoughts effectively in the preferred medium and language.
- b) Defend their views and ideas confidently with adequate evidence, be receptive to the views of others and carry forward the dialogue.
- c) Nurture / Build soft skills like motivation and curiosity for knowledge, written and oral communication, presentation skills, cooperation and teamwork, multicultural understanding, professionalism, scientific temper and leadership.

### **Entrepreneurial and Social Competence:**

- i. Understand the role of human beings as conscious citizens and realize a constructive citizenship role for themselves inspired by a sense of social responsibility.
- ii. Explore and understand their inclination and forte in a specific area so as to take up post-graduation in the discipline, interdisciplinary areas as well as professional courses related to Political Science.
- iii. Realize the significance of the roles of citizens, administrators and policy makers in effectively implementing rule of law in order to nurture Indian democracy.
- iv. Apply their learning and skills to policy evaluation and formulation in the area of their choice.

## **B.A. PSYCHOLOGY: PROGRAM SPECIFIC OUTCOMES**

Upon completion of this program the student will be able to-

### **Academic competence:**

- i. Develop sound knowledge about the fundamental concepts in Psychology pertaining to different sub fields like Positive Psychology, Health Psychology, Social Psychology, Psychopathology etc.

- ii. Develop critical thinking skills and distinguish between concepts studied in different courses.
- iii. Formulate psychology related problems and apply appropriate concepts and methods to solve them.

**Personal and Professional Competence:**

- i. Develop positive attributes such as empathy, compassion, social participation, and accountability
- ii. Develop effective communication skills like listening, speaking, and observational skills. Appreciate and tolerate different perspectives.
- iii. Carry out tasks independently as well as in teams and show leadership qualities.

**Research Competence:**

- i. Develop strong theoretical foundations of research methodology used in Psychology
- ii. Apply the knowledge to conduct research projects in an ethical way
- iii. Learn the use data analysis and presentation of the findings in an appropriate manner.
- iv. Learn to conduct test administration and result analysis.

**Ethical/Social competence:**

- i. Display a commitment towards the health and wellbeing of different stakeholders (Individuals, groups, society).
- ii. Analyze social problems, social dynamics and create solutions to manage them effectively.
- iii. Respect intellectual property rights and be aware of the implications of engaging in unethical means.

**B.SC: PROGRAM EDUCATIONAL OBJECTIVES**

- Facilitate value-based holistic and comprehensive learning by integrating traditional and innovative learning practices to match the highest quality standards and train students to be effective leaders in their chosen fields and career.
- Provide a conducive environment to unleash their hidden talents, creative potential, nurture the spirit of critical thinking and encourage them towards higher education.
- Equip students with skills needed to adapt better to the changing global scenario and gain access to versatile career opportunities in multidisciplinary domains.
- Develops a sense of social responsibility, ethics and equity to transform students into commitment-oriented professionals having a strong attitude towards sustainable development of the nation.



## B.SC: PROGRAM OUTCOMES

**Disciplinary Knowledge:** Demonstrate comprehensive knowledge of the disciplines that form a part of a graduate program. Execute strong theoretical and practical understanding generated from the specific graduate program in the area of work.

**Critical Thinking and Problem solving:** Exhibit the skills of analysis, inference, interpretation and problem-solving by observing the situation closely and design the solutions.

**Social competence:** Display the understanding, behavioural skills needed for successful social adaptation, work in groups, exhibit thoughts and ideas effectively in writing and orally.

**Trans-disciplinary knowledge:** Integrate different disciplines to uplift the domains of cognitive abilities and transcend beyond discipline-specific approaches to address a common problem.

**Personal and professional competence:** Performing dependently and also collaboratively as a part of a team to meet defined objectives and carry out work across interdisciplinary fields. Execute interpersonal relationships, self-motivation and adaptability skills and commit to professional ethics.

**Effective Citizenship and Ethics:** Demonstrate empathetic social concern and equity centered national development, and ability to act with an informed awareness of moral and ethical issues and commit to professional ethics and responsibility.

**Environment and Sustainability:** Understand the impact of the scientific solutions in societal and environmental contexts and demonstrate the knowledge of and need for sustainable development.

**Self-directed and Life-long learning:** Acquire the ability to engage in independent and life-long learning in the broadest context of socio-technological changes.

## B.SC: PROGRAM SPECIFIC OUTCOMES

Upon completion of this program the student will be able to-

### **Academic competence:**

- i. Develop deeper understanding of key concepts of Zoology at biochemical, molecular, cellular, physiological, histological and systematic level.
- ii. Understand the ecological impact on the evolutionary history of not only mankind but also unfolding the secrets of origin of life and classical Zoology.
- iii. Assess environmental impact on applied and skill-based branches of Zoology

### **Personal and Professional Competence:**

- i. Carry out analysis of biological data, perform laboratory procedures with suitable techniques in all areas.

- ii. Identify animals on the basis of comparative morphology and anatomy.

**Entrepreneurial and Social competence:**

- i. Empower the students by enhancing their self-sustainability capabilities through a thorough understanding of skill-based subjects and techniques by learning.
- ii. Culturing techniques of economically important animals in applied and classical zoology.
- iii. Develop social competence including listening, speaking, and observational, effective interactive skills and presenting skills to meet global competencies.

**ZOOLOGY: PROGRAM SPECIFIC OUTCOMES**

- i. Understand the nature and basic concepts of cell biology, genetics, taxonomy, physiology, ecology and applied Zoology.
- ii. Analyze the relationships among animals, plants and microbes.
- iii. Perform procedures as per laboratory standards in the areas of Taxonomy, Physiology, Ecology, Cell biology, Genetics, Applied Zoology, Clinical science, tools and techniques of Zoology, Toxicology, Entomology, Nematology Sericulture, Biochemistry, Fish biology, Animal biotechnology, Immunology and research methodology.
- iv. Understand the applications of biological sciences in Apiculture, Aquaculture, Agriculture and Medicine.
- v. Contributes the knowledge for Nation building.

**B.SC. BOTANY: PROGRAM SPECIFIC OUTCOMES**

Upon completion of this program the student will be able to-

**Academic competence:**

- i. Recall classical botany concepts, state principles and outline processes underlying the field of botany and its related interdisciplinary subjects.
- ii. Demonstrate an understanding of plant morphology, anatomy, physiology and application of economic botany and biotechnology.
- iii. Execute botanical excursions for studying plant diversity, taxonomic identification and preparation of digital herbarium.

**Personal and Professional Competence:**

- i. Carry out group and individual activities for personal development and leadership qualities.
- ii. Analyze the importance of plants and their conservation.
- iii. Formulate ideas, effective presentation and communication skills.
- iv. Implement self-learning, discipline and problem solving ability.

**Entrepreneurial and Social competence:**

- i. Employ the industrial applications of botany for start-up ventures.
- ii. Associate the impact of human activity on nature, importance of plant diversity and its conservation for sustainable development.
- iii. Execute effective communication ability, presentation skills and report writing.

**B. SC. CHEMISTRY: PROGRAM SPECIFIC OUTCOMES**

- i. Understand the fundamental concepts of theoretical and experimental aspects of physical, organic, inorganic, analytical and allied chemistry subjects.
- ii. Explain and clarify the understanding of thermodynamic, spectroscopic, kinetic and quantum models, stereochemistry and mechanism of organic reactions, chemical bonding and structure elucidation, analytical techniques and solving numerical problems.
- iii. Correlate and apply theoretical chemistry knowledge in explaining practical schemes

**Personal and Professional Competence**

- i. Solve numerical problems, mechanisms, analytical interpretation using chemistry concepts and knowledge.
- ii. Execute the knowledge of spectroscopic techniques learnt to characterize and identify structures of molecules used in drugs and pharmaceutical products.
- iii. Analyze chemical species qualitatively and quantitatively using appropriate analytical techniques.
- iv. Build confidence, patience, time management, leadership and intangible skills to achieve the goals in competitive examinations for higher learning courses in chemistry to meet global competencies.

**Entrepreneurial and Social competence:**

- i. Understand and explain the processes needed in domain related industries and write their general aspects.
- ii. Apply information related to material safety data sheets (MSDS) needed in various industries.
- iii. Embrace reduce, recycle and restore chemicals (3R's) approach and gain a sense of ethical, social and environmental awareness and responsibility.

**B.SC. MATHEMATICS: PROGRAM SPECIFIC OUTCOMES**

Upon completion of this program the student will be able to-

**Academic Competence:**

- i. Articulate basic concepts such as limit, continuity, and differentiability of real valued and vector valued functions of one and several variables along with the concepts of linear dependence, eigenvalues, eigen vectors.
- ii. Apply different methods to solve the differential equations.
- iii. Unify structures in Mathematics such as sets, relations and functions, logical structure, relationships among them and explore the more complex structures such as groups, rings and vector spaces.

**Personal and Professional Competence:**

- i. Apply mathematical problems and solutions in a variety of contexts related to science, technology, business and industry, and illustrate these solutions using symbolic, numeric, or graphical methods.
- ii. Analyze the data by selecting and using appropriate mathematical formulae or techniques in order to draw the relevant conclusion.
- iii. Create proficiency in writing mathematical proofs.

**Entrepreneurial and Social Competence:**

- i. Employ analytical skills acquired helps to distinguish employment opportunities in several fields including IT, Research and Development Department and Teaching field.

**B. SC. PHYSICS: PROGRAM SPECIFIC OUTCOMES**

Upon completion of this program the student will be able to-

**Academic competence:**

- i. Develop and demonstrate an understanding of the concepts related to all important concepts.
- ii. Demonstrate independent thinking and scientific temper. Categorize, calculate and solve problems using concepts of physics.

**Personal and Professional Competence:**

- i. Carry out laboratory-oriented numerical calculations and be capable in data visualization and interpretation. Perform, demonstrate and analyze experimental work with suitable techniques in physics to study the phenomena related to light, scientific instruments, material process, electrical and electronics applications.
- ii. Carry out the calculations in classical mechanics, quantum mechanics, mathematical methods and solids with advanced techniques using computations and C-programming.
- iii. Analyze experimental results and interpret graphs.
- iv. Formulation of ideas, scientific writing and authentic reporting, effective presentation and communication skills through group discussion.

**Entrepreneurial and Social competence:**

- i. Enhance and empower the students with their self-reliance capabilities through the understanding of advanced techniques, use of programming language, material processing, mathematical and classical concepts, and advancement of electronics ideas with reference to advanced techniques with their industrial applications.
- ii. Employ experimental skills in industrial applications.
- iii. Develop scientific temperament and social awareness through internships and science popularization. Awareness of ethical issues: emphasis on academic and research ethics.
- iv. Outline the use of renewable sources for sustainable development of human beings.
- v. Execute social competence including effective use of computer languages to meet global competencies in the technological world.

### **B.SC. BIOTECHNOLOGY: PROGRAM SPECIFIC OUTCOMES**

Upon completion of this program the student will be able to-

#### **Academic competence:**

- i. Demonstrate comprehensive knowledge, imparted by highly qualified and competent faculty, and develop interdisciplinary skills in the fields of Biotechnology.
- ii. Acquire good experimental and laboratory skills applied in biotechnology and allied subjects in well-equipped and state of the art laboratories.
- iii. Understand the scope and applications of biotechnology and acquire competence in the domain of Biotechnology to enable bright future prospects.

#### **Personal and Professional Competence:**

- i. Demonstrate conceptual learning through systematic thinking and self-study and lifelong learning that helps to solve scientific problems in the field of Biotechnology.
- ii. Apply appropriate tools and techniques in biotechnology, to design and perform experiments proficiently and become competent to pursue higher studies or join the industry sector.
- iii. Acquire good oral and written communication skills.
- iv. Discuss the upcoming fields of Biotechnology.
- v. Experience opportunity to participate in/manage/curate many co and extracurricular activities for overall development.

#### **Entrepreneurial and Social competence:**

- i. Employ skills and knowledge acquired in skill imparting and entrepreneurial courses in upcoming fields of Biotechnology.
- ii. Develop a sense of environmental, social, ethical and professional responsibility.