



ARYABHATTA

Learn here  
**LEAD** anywhere

**2018-19**

India Invented the Number System.  
Zero was invented by  
Aryabhata.



### Our Inspiration

Aryabhata was an acclaimed mathematician-astronomer. He was born in Kusumapura (present day Patna) in Bihar, India. His contribution to mathematics, science and astronomy is immense, and yet he has not been accorded the recognition in the world history of science. At the age of 24, he wrote his famed "Aryabhatiya". He was aware of the concept of zero. He was the first to calculate the value for 'pi' accurately to the fourth decimal point. He devised the formula for calculating areas of triangles and circles. He calculated the circumference of the earth as 62,832 miles, which is an excellent approximation, and suggested that the apparent rotation of the heavens was due to the axial rotation of the earth on its axis. He was the first known astronomer to devise a continuous counting of solar days, designating each day with a number. He asserted that the planets shine due to the reflection of sunlight, and that the eclipses occur due to the shadows of moon and earth. His observations discount the "flat earth" concept, and lay the foundation for the belief that earth and other planets orbit the sun.

- Aryabhata is credited to have set up an observatory at the Sun temple in Taregana, Bihar.
- He served as the head of an institution (kulapa) at Kusumapura and might have also been the head of the Nalanda university.
- Some scholars claim that the Arabic text 'Al ntf' or 'Al-nanf' is a translation of one of his works.
- His most famous text, 'Aryabhatiya', consists of 108 verses and 13 introductory verses.
- Aryabhata did not use the Brahmi numerals, he used letters of the alphabet to denote numbers.
- It is probable that he might have come to the conclusion that 'pi' is irrational.
- He discussed the concept of 'sine' in his work by the name of "ardha-jya", which literally means "half-chord".
- Calendric calculations devised by Aryabhata are used for fixing the 'Panchangam' (the Hindu Calendar).
- He correctly stated that the earth rotates about its axis daily.





## CHAIRMAN

Dear Students

At Aryabhata institutions, you will be exposed to an atmosphere of intellectual simulation and team play, unique approaches to complex challenges, industry via high level committees and extensive collaborations with business. Our target is to equip each Aryabhattian with the best education and provide world class infrastructure to help the fertile brains to achieve best in life. At Aryabhata, this can be captured in just two words- 'We deliver'. Not only do we inculcate in our students the best of creative and technical qualification, we also teach them indispensable human qualities. Aryabhata institute has a caring faculty body, excellent academic facilities and ideal environment for study, We look forward to having you as a student on our campus. You are on the threshold of an educational opportunity that will launch you on a productive and satisfying professional career.

Welcome you to the path of knowledge at Aryabhata.

With best wishes !  
ER. R.K. GUPTA

## VICE CHAIRMAN

Dear  
Future Engineers  
& Managers,  
Greetings'  
of the day !

Aryabhata Group of institutes has been named after the great educationist and visionary Aryabhata and wishes to follow his vision about education. We believe in total education.

Besides imparting professional and technical skills, we make efforts for the all round development of the students so that they are able to compete with best in the professional world and may live a commendable and respectable life in future. "I welcome you all for the first step towards your career. Our mission is to provide you with educational opportunities in order to prepare you to actively participate in the world as productive, responsible, and creative individuals."



With best wishes !  
RAJIV MANGLA

## GENERAL SECRETARY



With us you will discover a new learning experience in a dynamic and supportive environment, broaden your horizons and discover the liability power of new ideas and insights, be intricately woven into our core fabric of flexibility, creativity and innovation and graduate with the confidence, energy and ability that will help you realize your dreams and unleash your creativity.

At Aryabhata, we are integrating the finest of teaching methodologies that were used in Gurukuls. The faculty here has been chosen from the best bunch of experienced minds. We believe in providing a holistic development of an individual in all fronts. Looking forward to meet you at our campus soon.

With best wishes!  
**ER. VICKY SINGAL**

## JOINT SECRETARY

Dear Students  
Greetings'  
of the day !

The need for a professional workforce has been of the utmost importance to our nation like never before. There is a yawning gap between the demand and supply of quality manpower. The nation has experienced dramatic changes in the style in which education was provided in past decade and now. Now we all know that if we need to keep pace with rapidly changing scenario then we need to have industry oriented programs and education needs to be integrated along with industry specific requirements. This is what leading us to build up tie-ups with the industry & use this collaborative environment for developing students for the industry.



With best wishes !  
**ER. INDERPAL GOYAL**



### ADDITIONAL SECRETARY

Dear Students, Welcome!

The words of Franklin D. Roosevelt perfectly describe our aim at Aryabhata Group of Institutes. Beyond providing a sound education, we wish to provide our students a holistic learning experience for life. Our aim is to teach students to LEARN, not just STUDY. Here, we strive to travel beyond the boundaries of mere books. We have realized that the future is abstract and unknown but the youth in our hands are real and can be moulded. Dear students, "You are the nation-builders. You are the movers of technology. You are the agents of change." It is our fervent hope that the years that you spend in Aryabhata would enable you to equip with leadership and managerial skills. The knowledge that you will gain, the fine qualities that you will imbibe and the technical skills that you will learn to apply will be your major contribution to your parents, to society, and to the nation.

We invest our trust on you. There are strong challenges to great efforts, but always remember, great effort bears the sweet fruit of success. We want you to taste the fruit of success once and for the rest of your life, you will never rest.

"You don't have to be great to start, but you have to start to be great."

All the very best for your future !  
Best wishes.

ER. MOHIT MANGAL



### FINANCE SECRETARY

Dear Students, Welcome!

Aryabhata offers high-quality instruction programs designed to give our students the intellectual tools and the skills needed to succeed in the highly competitive workforce of the 21st Century. It is our continuous effort at Aryabhata to create globally competent individuals with a grit and determination to manage challenges and use them as a cutting edge in a competitive world. At Aryabhata we care about the quality of your experience. Our firm belief that value based learning is of great value relevance in a dynamic and ever-changing work environment. You have access to faculty guidance, full staff support and a caring and nurturing environment. You share a very special relationship with us.

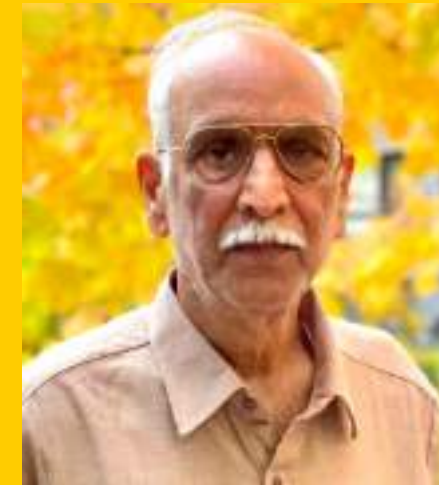
All the best for your future !  
With best wishes !

ASHWANI KUMAR SINGLA

## CAMPUS DIRECTOR

Dear Students & Parents

We at Aryabhata Institutes commit to create a world class learning environment, which prepares young professionals to cope up with ever increasing challenges of competitive world, which develops their versatility to adapt seamlessly in a multi cultural global environment, which trains them to be equally comfortable in state-of-the-art as well as rustic environment, which nurtures their leadership traits to shoulder increasing responsibilities, which encourages them to analyses every difficult situation objectively, and which imbibes in them to keep their core values and ethics intact in all situations. We have great sense of satisfaction in beginning the journey to stay ahead. At Aryabhata we prepare you for the challenges of the new world. The exposure through academics, case studies, industry interactions, industrial trainings, extracurricular and co-curricular activities, seminars and field assignments will have immense learning value which you will cherish throughout your life. The opportunity for learning is limitless. And to add to this the Training and the Placement department is strong and immaculate in dispersing its duties. Students, you should make your purpose in life and hard work as your virtue and must seize opportunities in our institutes to attain growth and development through your perseverance, performance and achievement. As we know that the transition



from one state of mind to another can be quite difficult and daunting, and only clarity about the goal and the right approach can make it look simpler. It is true as famous Chinese proverb says that "A thousand miles journey starts with a single step but this single step has to be in the right direction". I assert that your goal and approach both are well-thought and well-informed and above all your conscious decision to have this transition with 'Aryabhata Group' is the first right step towards your life goal attainment. I take this prized opportunity to welcome the students from the core of my heart and assure their parents that the college & its students will progress by leaps and bounds in the coming years.

May Success always be yours!

With best wishes  
**DR. V.K.WALIA**

## About us

Globalization has thrown up new opportunities and hence the Profile of winners and leaders in this new age is changing. The institutes being the temples of education and learning have a special responsibility to equip the future professionals with attitudes and skill sets essential for winning in this competitive information age. A modern self contained infrastructure, continuing updating of curriculum and pedagogy and a committed, skilled and experienced faculty are essential ingredients of a new age educational institute. The Aryabhata Group of Institutes are committed to promote quality and value based education, providing a sound physical and academic infrastructure, an engaging curriculum, a vigorous outdoor life, a motivated and skilled faculty and a student centered learning environment of vibrant campus. The institutes are based on four core-value pillars: Knowledge, integrity, excellence and leadership.

The institutes successfully focus on fusion of modern science and technology with traditional Indian values. Aryabhata Group of institutes are envisaged as an incubation centre to develop quality human capital for the industry i.e. future professionals & leaders, who are academically strong, have a well-honed vision, got professional and specialized practical skills; and possess motivation, dedication & commitment to conquer their goals. The focus is on holistic physical, mental, spiritual & intellectual development of students with the help of continuous Personality Development Programs, Communication Skills Workshops, Soft-skills training, Motivational Speeches, Expert Lectures from the eminent personalities with vast industrial and academic backgrounds, Individual counselling sessions, co-curricular & extra-curricular activities etc. At the very onset Aryabhata Group of institutes accentuate to become truly professional institutes by giving supreme importance to training & placements with the help of a dedicated

Training & Placement department focusing on exploring, developing and maintaining close liaison & collaboration with industry and providing interface platform between industry & students. The objective is to provide its students with the best professional career prospects in the emerging global workplace and to equip them for more effective and organized contribution to their chosen professions and fields.

## ADVANTAGES

- ❖ Wi-Fi campus of the region with state of the art hi-tech infrastructure.
- ❖ Student centered learning as the foundation of the institute's teaching pedagogy
- ❖ Highly qualified and experienced faculty recruited selectively to advance knowledge & bring out the best in the students.
- ❖ Contemporary facilities & self contained infrastructure providing a holistic learning environment and contributing to the students' all round personality development.
- ❖ Cricket Ground duly approved by Punjab Cricket Association (PCA), Mohali





## INFRASTRUCTURE

### Premises:

Aryabhata provides a rich learning environment with Wi-Fi enabled building & technological support to facilitate teaching, learning and personality development. Aryabhata inculcates its students to have a global perspective, while at the same time be keenly perceptive about local conditions. Aryabhata group of institutes are spread over 14 acres of lush green land. With superior infrastructure and industry benchmarked curriculum and a dedicated Training & Placement department, the institutes have all the requisite facilities that form an integral part of any top professional institute.

### Learning Centers/ Lecture Theatre :

The classrooms or learning centers provide the most conducive atmosphere for dynamic and focused discussion. The rooms are architecturally and aesthetically well designed and are well ventilated with step up seating to facilitate students and to promote maximum interface between teachers and students. Furniture in rooms is economically designed for comfortable sitting of students. In addition to the traditional blackboards, to make the teaching-learning process multidimensional, multimedia, over head projectors are used. More over the faculty adapts various methods of teaching like group discussions, quiz, debate, lecture method, audio-visual techniques and other learner centered modules.



### Multipurpose Hall:

The academic life at Aryabhata goes beyond the curriculum. For cultural and social functions, the multipurpose hall with a capacity of 250 seats at the campus provides an ideal platform for students to express themselves in public speeches, theatres, plays and general entertainment.

### Conference/ Guest Lectures :

A lecture is an occasion when you numb one end to benefit the other. At Aryabhata, emphasis is given on not only making you academically brilliant, but true leaders and team players, thus preparing you for the real life. This is done by inviting Eminent personalities from various sectors and institutions to lend valuable information from their experiences to our students.

## LIBRARY

Library is the brain of any educational institution of higher learning. It is the hub around which all the academic activities of the institution revolve. Aryabhata library represents the spirit of comprehensiveness and intellectual richness. A gigantic self contained spacious, air-conditioned modern central library with good collection of books, reference books, newspapers, magazines, reputed national and international journals/periodicals, Educational Video Films, Computer Based Tutorials and online databases acts as a reservoir of knowledge in the various disciplines. The serene atmosphere in the library with rows of neatly stacked books plays a major role in attracting the students to the library for serious study and supplementing their class notes.



## COMPUTER CENTRE



There are more than 5 spacious computer labs equipped with about 400 computer sets with the latest configurations and the state-of -the-art software. All the computer systems are connected by LAN & 24 hour's internet connectivity is provided for the benefit of students as well as faculty members. The windows, UNIX and LINUX software packages such as Drawing and Drafting package (AUTOCAD),Multimedia and various editing packages are made available to create simulated environments to suit not only the curriculum very well but also to go beyond it.



## Laboratories

Aryabhata has excellent infrastructure, including domain specific laboratories associated with the technical divisions. All labs are equipped with the latest Hardware & Software for the up-gradation of education and upliftment of research for students to meet the challenging needs of the technical sector. The labs offer students to work on a wide range of advanced software packages. We boast of fully equipped laboratories with modern equipments. At Aryabhata, you should expect more than a course schedule and books. We want you to get your hands dirty. Majority of our students participate in research during their undergraduate years.

## COMMUNICATION SKILLS LAB

Modern communication skill lab with Language Lab System focusing on continuous grooming of "English" communication skills of the students. The lab attempts to inculcate the practical skills of communication which includes discussion sessions, presentations, mock meetings, mock interviews etc. with an objective of developing the all round personality particularly the qualities of leadership, dynamism, team building, positive value based attitude and confidence among the scholars.

## PHYSICS LAB

Studying Physics is very exciting since the subject strives to understand the universe from the largest galaxies to the smallest subatomic particles. The Advanced level syllabus builds on many areas that would have already been tackled at SECONDARY level but it covers new ground and the level of study is much deeper.

## CHEMISTRY LAB

Chemistry is one of the fundamental sciences which have a profound effect on our planet. It is involved in every facet of everyday life. The Advanced level is divided into physical, organic and inorganic Chemistry with strong links between them. Intermediate Chemistry provides a comprehensive course in chemical literacy. It covers the core topics in a comprehensive yet concise manner. The course aims to give a good grounding in Chemistry without the depth and higher degree of commitment required at Advanced level.

## WORKSHOP

Apart from emphasizing on content-focused education being imparted to our students, we at Aryabhata Group of Institutes have also realized that the importance of skills has not diminished. We are aware of the fact that the key to success in the 21st century organization is not content, but practical skills. We provide our students several opportunities to develop their technical skills, abilities, talents and engage in learning through practical exposure in workshop. The students are aware of working on lathes, driving welding stations, working with foundry mould etc.

## LIVE PROJECTS BY STUDENTS

Dedicated laboratories allow students to combine their practical and theoretical studies right from the first year and continuing throughout their degree program. Compulsory projects are a part of the course curriculum. Students are engaged in Engineering design right from the first year. Our students have competed in many national and international design projects like Linear Induction Motor, Hybrid Electric car, Handicapped Wheel Chair etc. Small Classes allow faculty to provide for individual attention. Students learn in small groups, receive hands on experience every semester and participate in faculty research projects.

## Sports & Other Facilities



## SPORTS

For an all-round development of personality of the students by realizing the constant Endeavour of seeing the students growing intellectually as well as physically, facilities of games, sports are offered. Sports activities are a regular feature for inculcating healthy habits in the students. Chess, Basketball, Cricket, Table Tennis, Football, Volleyball, and Athletics etc. are some of the activities which are pursued.

In continuing the value added features to the students, college signed MOU with PUNJAB CRICKET ASSOCIATION (PCA) MOHALI.

Sports authority of India (SAI) deputed regular coach for free coaching every evening at our campus.

## TRANSPORT FACILITY



Transport system is quite strong pour fleet of buses run to and fro for the students commuting from various nearby cities and villages so that they should not face any problem in reaching the College and going back home. Continuous efforts are being made to add more buses to the system so that the accessibility of the transport system becomes easy for the students. The bus passes are also provided to the students.

Our transport system covers 60 km radius around the institute. we mainly covers Tapa, Rampura, Mehal Kalan, Raikot, Sherpur, Bhadaur, Bhagta, Bhai Rupa, Nihal Singh Wala, Bhikhi, Longowal, Badbar, Joga, Mallowal etc.

## HOSTEL

AGI gives privileges to students to have feeling of home away from home by offering them well furnished, comfortable, safe and separate hostel for boys & girls inside the campus.

Facilities:

- ❖ 24 hours electric supply with power backup.
- ❖ Adequate ventilation & lighting.
- ❖ Internet connectivity through Wi-Fi.
- ❖ Entertainment hall with dish TV.
- ❖ 24 hours Security



## MEDICAL CENTRE



Medical centre is being added to make the facility available to all the students to keep them healthy and strong to pursue their studies. The existing first Aid system is being upgraded to become a good medical centre to take care of the student's health. The health of the student's community is safe, steady and growing.

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## CAFETERIA

A cafeteria is a place where brilliant minds sit, interact with each other, think together, recreate themselves and great concepts originate. So a modern hygienic cafeteria with a wide variety of snacks & meals catering to the multi-ethnic taste of the students is the heart of the college campus.



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## STEPS TO MARCH FORWARD

**Aryabhata** teaching methodology realizes its challenge to create an effective mix between theory and practical. In a nutshell, most learning style systems emphasize that, learners learn by passive reflective listening, many others learn best by actively "doing". Our teaching is a balance between the delivery of information, or the demonstration of a procedure, and opportunities for student to apply that information in hands-on practice, exercises, case studies, role plays etc. We make our students understand and retain information best if they immediately apply it in some way, and the students get repeated opportunities to practice in order to master the skill or retain the information. Teaching methodology for the course includes the gamut of class-lectures, case sessions, simulation exercises, class presentations, tutorials, role plays, live projects, extension lectures by experts from industry and academia etc.

**Lecture and Discussion:** Lectures are designed not to be merely pedantic. It coaxes the students to think and undertake further readings. The lectures are aided by audio-visual materials and a

plethora of study notes supplements these lectures. Designed to give the student the analytical tools to think about engineering & management



from a broad range of perspectives, it develops his knowledge, critical abilities and practical skills. Core courses engross him in the foundation of modern industry & enterprise, a series of electives allow him to pursue his own interests and career goals and real world projects help to apply the skills and the knowledge he has learnt.

**Seminars/Presentations:** We focus on small group of students for improving their presentation skills. The group mentored by the staff member holds in depth discussion on a topic. It could be for example, on an exercise or case which students have worked on, or an essay that an individual student has presented. Students devote a major portion of their time to intensive analytical study and discussion on real life

industrial & business situations set forth in selective case studies. The students are encouraged to consider competing viewpoints to promote creative discovery.

**Tutorials:** Tutorials are designed to prepare students for real life situation. There is a greater degree of personal attention to each student who is assigned to a slew of individual and group assignments. A student regularly works on his/her projects & problems. At the core of tutorials is the learning approach to problem solving.

**Scholarships:** Shree Krishna Educational & Charitable Society Trust provides free guidance, assistance and books to the needy students. Along with this, the students of this



Institution are eligible to receive all types of Social Welfare Scholarships

granted by the State Government. The State Government awards scholarships to the economically weaker section students belonging to



S.C., S.T. and B.C. communities. Management of this institution also provides scholarships to meritorious students and economically weaker section students irrespective of their communities. The Management motivates the industries and individuals in proximity to install their Foundations in the Institute and award merit scholarships in their names.

**Industry Visits:** Regular Industry visits are organized to various industrial units to provide the students a proper understanding of the industrial sector and provide insight into the application of their theoretical knowledge into practice. The students visit industry/business houses frequently to get in depth knowledge of industrial processes

### Clubbing Ideas:

Student clubs are a very important part of the learning and cultural environment at Aryabhata. Formed by functional interest areas and driven by the students themselves, the clubs are a diverse pool of ideas and perspectives. Outlined alongside are the various students groups and their successes at Aryabhata and beyond.

### Student Life:

At Aryabhata student life is centered on fabulous accommodation, libraries, union social life and societies. Student's tours & excursions



are conducted by an enthusiastic team of students. The information is transmitted in the form of benefits of each of the facilities available to the students. So the student is encouraged to visualize himself being there utilizing all the fabulous social

facilities. Life is full of colors, apart from daily lectures and examinations students need sufficient opportunity



to enjoy life and make friends. Aryabhata supports events, activities and clubs that run the gamut from purely social to strictly professional. Clubs are the centre of student's activities and are active in all areas of student life. They also provides best system of student representation and student support. Here is an ideal opportunity for individuals to broaden their horizons and have a go at something that perhaps they never had the opportunities of trying before.



Source : <http://www.punjabiuniversity.ac.in/>

## ABOUT PUNJABI UNI. PATIALA

Punjab Assembly established Punjabi University, Patiala under the Punjab Act No. 35 of 1961. Dr. S. Radhakrishnan, the then President of India laid foundation of Punjabi University on June 24, 1962. He preached, "The institutes of higher education share the burden of nation-building in a critically important sense. Our aim is a strong, free and democratic India where every citizen has an equal place and full opportunity of growth. In this task, a vast responsibility rests on our universities." This is the second University in the world to be named after a language, the first being Hebrew University of Israel. Its vision is to establish and incorporate a University for the advancement of Punjabi studies and development of Punjabi language as a medium of instruction or otherwise for providing instruction in humanistic and scientific subjects and generally for the promotion of education and research. The University started working from its present lush green, pollution free, 316 acres campus since 1965. Initially University's jurisdiction area was fixed as the 16 km radius having only 9 colleges. In 1969, it grew into an affiliating university, with 43 colleges affiliated to it. Now the university caters to the educational needs of nine Districts of Punjab. Over the time since its inception, the University has evolved into a multi-faceted and multi-faculty educational institution for the promotion of higher education and research in Humanities, Arts, Sciences, Engineering Languages, Technology and many more. Spread over 600 acres of land, its 1500+ teachers are imparting instruction and guidance to nearly 14,000+ students in a multi-faceted, multi-pronged and multi-faculty environment comprising 70+ Teaching and Research Departments/Chairs on its Campus, 27 Regional Centre/ Neighbourhood Campuses/Constituent Colleges and 278 Colleges affiliated to it.

### Main Courses run by Punjabi University Patiala

1. Faculty of Arts and Culture
2. Faculty of Business Studies
3. Faculty of Computing Sciences
4. Faculty of Education and Information Science
5. Faculty of Engineering
6. Faculty of Languages
7. Faculty of Law
8. Faculty of Life Sciences
9. Faculty of Medicine
10. Faculty of Physical Sciences
11. Faculty of Social Sciences

### NAAC Performance

Sr. No.	Cycle	Grade	CGPA	Year of Accreditation	Validity Upto
1.	1st Cycle	Five	-	2002	2002-2007
2.	2nd Cycle	A	3.11	2008	2008-2013
3.	3rd Cycle	A	3.34	2016	2016-2023

### Patents

Till to date 22 patents have been registered and accepted. 11 research journals are being published by the University. Around 94 awards have been bestowed upon the University faculty by duly recognizing their research. Large number of faculty members are on editorial boards of national and international journals.



**AFFILIATED WITH PUNJABI UNIVERSITY PATIALA  
AND APPROVED BY GOVT. OF PUNJAB**

Our courses are designed, and regularly reviewed, with the support of our Advisory Panel to ensure that the content and delivery are relevant to today's world. They will keep you up to date with the latest industry developments and equip you with the appropriate technical/management and teaching skills to enable you to walk the extra mile to achieve success.

**Master Degree Programs**

- ◆ Master of Science in Mathematics (M.Sc.-Mathematics)
- ◆ Master of commerce (M.Com.)
- ◆ Master of Arts in Economics (M.A.-Economics)
- ◆ Master of Arts in English (M.A.-English)
- ◆ Master of Science in Information Technology (M.Sc.IT & LEET)

**Post Graduate Diploma in Computer Applications (PGDCA)**

**Under Graduate Degree Programs**

- ◆ Bachelor in Science-Non Medical (B.Sc. -Non Medical)
- ◆ Bachelor in Science Hons. Agriculture (B.Sc.Hons. in Agriculture)
- ◆ Bachelor in Commerce (B.Com.)
- ◆ Bachelor in Computer Application (BCA)
- ◆ Bachelor in Business Administration (BBA)
- ◆ Bachelor in Arts (B.A.)



## MASTER OF SCIENCE IN MATHEMATICS (M.SC.-Mathematics)

Mathematics has got a great importance in the industrial and economic development of a country. M. Sc. in Mathematics is the postgraduate course in Mathematics which enables the candidates to use their mathematical knowledge in different areas. This course has got great scope and there are ample opportunities available for the M. Sc. graduates.

### Career Opportunities :

M. Sc. in Mathematics graduates can find lot of opportunities in Research and Development firms, Economic Research firms, Market Research firms and Manufacturing firms. They can look for the job profiles like Quantitative Risk Analyst, Statistician, Treasury Management Specialist and Demographer in these firms. Those who want to work in public sector can find plenteous opportunities in various government organizations like Defence Research and Development Organization (DRDO) and Indian Space Research Organization (ISRO). Reputed Software companies offer several career opportunities for these graduates in operation research, software design and programming. They can also work in various government colleges after qualifying SET or NET exam.

**Eligibility: Graduation with Math as Elective subject in whole graduation/B.Sc- Non Medical**

M.Sc. Math 1 <sup>st</sup> SEMESTER
Algebra-I
Mathematical Analysis
Topology-I
Differential Geometry
Elective Subjects (Any one)
Computer Programming Using C-Language
Software Lab
Mathematical Statistics
Linear Programming

M.Sc. Math 2 <sup>nd</sup> SEMESTER
Algebra- II (Rings and Modules)
Topology-II
Differential Equations-I
Functional Analysis
Elective Subjects (Any one)
Complex Analysis
Classical Mechanics
Numerical Analysis

M.Sc. Math 3 <sup>rd</sup> SEMESTER
List of Electives (any Five of the followings)
Differentiable Manifolds
Field Theory
Differential Equations - II
Category Theory - I
Numerical Analysis- I
Complex Analysis - II
Classical Mechanics
Algebraic Topology
Analytic Number Theory
Optimization Techniques-I
Fuzzy Sets And Applications
Solid Mechanics

M.Sc. Math 4 <sup>th</sup> SEMESTER
List of Electives (Any Five of The Followings)
Homology Theory
Theory of Linear Operators
Geometry of Differentiable Manifolds
Category Theory-II
Optimization Techniques-II
Homological Algebra
Finite Elements Methods
Fluid Mechanics
Algebraic Coding Theory
Commutative Algebra
Operations Research
Wavelets
Non Linear Programming
Numerical Analysis-ii
Mathematics of Finance
Mathematical Methods

## MASTER OF COMMERCE (M.COM.)

This Post Graduation Program is designed to enhance the practical efficiency of the students in the sphere of modern Business World. The specialization offered for this Program is Business accountability to acquaint the students with the changing Business Environment of Indian as well as International Market, to provide additional practical knowledge of business concepts, procedures, methodologies and management of various organizational operations, to provide basic knowledge about Business Research to the students.

### Career opportunities:

Masters of Commerce (M. Com.), is one of the highly demanded course after graduation in the field of Commerce. The candidates who successfully complete their program in Master of Commerce will secure better job prospects in Accounting, Administration, Finance, Marketing and Human Resource sector.

**Eligibility: B.Com./B.B.A./B.M.I.T./ B.Com (Prof.)/ Bachelor of Accounting & Finance examinations with at least 50% marks in the aggregate from this University or any other University recognized as equivalent thereto by the Academic Council.**

M. Com 1 <sup>st</sup> SEMESTER
Management Concepts & Organizational Behaviour
Accounting for Managerial Decisions
Business Economics
E- Commerce
ELECTIVE PAPER (ANY ONE GROUP)
<b>GROUP-I : ACCOUNTING &amp; MANAGEMENT</b>
Accounting Theory and International Accounting
<b>GROUP-II: FINANCE</b>
Financial Management

M. Com 2 <sup>nd</sup> SEMESTER
Advanced Accounting
Business Environment
Research Methodology & Statistical Techniques
Seminar(Based upon current issues relating to Comm.)
ELECTIVE PAPER(ANY ONE GROUP) SAME AS SEM.-I
<b>GROUP-I : ACCOUNTING &amp; MANAGEMENT</b>
Management Information and Control System
<b>GROUP-II: FINANCE</b>
Financial Institutions and Markets

M. Com 3 <sup>rd</sup> SEMESTER
Contemporary Auditing
Corporate Legal Framework
Direct Tax Laws
Marketing Management
Elective Paper (Any One Group) Same as Sem.-I
<b>GROUP-I : ACCOUNTING &amp; MANAGEMENT</b>
Project Management
<b>GROUP-II : FINANCE</b>
Management of Financial Services

M. Com 4 <sup>th</sup> SEMESTER
Human Resource Management
Fundamentals Of Investment
Banking And Insurance Services
Corporate Tax Planning
Comprehensive Viva-voce
Elective Paper(any One Group) Same as Sem.-I
<b>GROUP-I : ACCOUNTING &amp; MANAGEMENT</b>
Corporate Governance
<b>GROUP-II : FINANCE</b>
International Finance

## MASTER OF ARTS IN ECONOMICS (M.A.- Economics)

This program focuses on building up analytical capacities rather than trying to cover all aspects of the field, because we believe that in a rapidly changing economic and business environment. It is the ability to identify, structure, analyze, and solve changing problems that matters. Flexibility demands the ability to collect, assess, and process information in an analytical and systematic way rather than to maximize the storage of information that will typically be short-lived and may be very specific to the situation decision-makers are confronted with or the industry they are operating in.

Core topics of the program include the analysis of global asset allocation and international fund management, investment banking and venture financing, the analysis of trading systems and the ensuing market micro structure, as well as the design and operation of insurance and pension systems. The specific emphasis includes both the analysis of the existing international financial infrastructure, and the optimal design of financial institutions. Hence, this program confers in depth knowledge about ongoing political debates, about the optimal financial architecture of the global capital markets, the function and design of supervisory agencies and the general regulatory process surrounding "Basle II", and last not least about the optimal design of pension systems.

**Eligibility: Graduation with Economics as Elective subject in whole graduation with 50% marks**

M. A. (Eco.) 1 <sup>st</sup> SEMESTER
Micro-Economic Analysis
Macro-Economic Analysis
Basic Quantitative Methods
Economics of Growth and Development
Any one of the following papers:
(I) Economics of Agriculture
(ii) Economics of Industry
(iii) Economics of Labour
(iv) History of Economic Thought
(v) Economics of Demography
(vi) Economics of Gender and Development
(Vii) Economic History of U.K. and Japan

M. A. (Eco.) 2 <sup>nd</sup> SEMESTER
Micro-Economic Analysis
Macro-Economic Analysis
Basic Quantitative Methods
Economics of Growth and Development
Any one (Same as selected in Semester-1)
(I) Economics of Agriculture
(ii) Economics of Industry
(iii) Economics of Labour
(iv) History of Economic Thought
(v) Economics of Demography
(vi) Economics of Gender and Development
(vii) Economic History of India and U.S.S.R.

M. A. (Eco.) 3 <sup>rd</sup> SEMESTER
Political Economy of Development
Evolution and Structure of Indian Economy
Public Economics
Any two papers from any one of the Groups
Group-I
(I) International Economics
(ii) Regional Economics and Punjab Economy
(iii) Money and Banking
(iv) Comparative Economics Systems
(v) Theory of Statistics
(vi) Mathematical Economics
(vii) Computer Applications for Economists
Group-II
(I) Theory of Statistics
(ii) Econometrics

M. A. (Eco.) 4 <sup>th</sup> SEMESTER
Political Economy of Development
Evolution and Structure of Indian Economy
Public Economics
Any two papers from any one of the Groups
Group-I
(I) International Economics
(ii) Regional Economics and Punjab Economy
(iii) Money and Banking
(iv) Comparative Economics Systems
(v) Theory of Statistics
(vi) Mathematical Economics
(vii) Computer Applications for Economists
Group-II
(I) Theory of Statistics
(ii) Econometrics

## MASTER OF ARTS IN ENGLISH (M.A.-ENGLISH)

The MA programme offered by the English Department constitutes most extensive academic activity. The course surveys the canon of English literary studies as well as the latest trends in literature written in the English language from all over the world. The M.A. English syllabus comprises 16 courses to be taught over 4 semesters i.e. 2 years. It now covers the English literary tradition that extends from Chaucer to modern times. It also incorporates several new areas such as Indian literatures in English and in English translation, literary theory and the relationship between literature and the visual arts. The course aims at giving the learners essential language skills, vital for employability, while instilling in them the maturity for aesthetic enjoyment, for understanding and appreciating values- social, cultural and spiritual so that they are molded into responsible human beings. It trains the students to become prospective teachers, professors and critics.

An important objective of the Masters programme is to introduce students to advanced study and scholarly activity in order to provide an avenue towards a PhD for those who wish eventually to seek a career in the academia. In addition, the course is designed to provide a reasonably complete higher education in literary studies for those who do not intend to proceed to a further degree in the field, but who may indulge into other areas as diverse as publishing, editing, journalism, administration, management, communications or teaching at the high school level.

**Eligibility: Any Graduation with 50% marks**

M.A. (Eng.) 1 <sup>st</sup> SEMESTER
Medieval and Renaissance Poetry
Classical and Elizabethan Drama
Rise of the Novel
One of the following options:
(I) English Phonetics and Phonology
(ii) Shakespearean Drama

M.A. (Eng.) 2 <sup>nd</sup> SEMESTER
Literary Criticism from Johnson to Eliot
Poetry from Neoclassical to Victorian Age
Nineteenth Century Fiction
One of the following options:
(I) Modern Drama
(ii) Literary Essay
(iii) Modern English Grammar and Usage

M.A. (Eng.) 3 <sup>rd</sup> SEMESTER
Literature and Modernity
Twentieth Century Poetry and Fiction
Literature and Gender
One of the following options:
(I) Literature and Post-Coloniality
(ii) Creative Writing
(iii) Modern Indian Literature in Translation

M.A. (Eng.) 4 <sup>th</sup> SEMESTER
Literary and Cultural Theory
Indian Writing in English
American Literature
One of the following options:
(I) Literature and Politics
(ii) Language and Linguistics
(iii) European Drama

## MASTER OF SCIENCE IN INFORMATION TECHNOLOGY (M.SC.IT) & LEET

The programme aims at realising the following objectives:-

- To equip postgraduate students with an integrated set of skills that will allow them to develop their professional careers in Information Technology.
- To equip students with the theoretical and practical knowledge that is necessary to enable them to understand the design of complex computer applications/ science.
- The programme also prepares students to embrace future developments in the field and has a demonstrated professional relevance.

**Eligibility:** For First year any graduation with 50% marks or BCA with 33% marks  
for Second year (LEET) : B.E. (CS/ IT) / B.Tech ( CS/IT ) OR 3 Year Graduation with One Year PG Diploma in IT/CA  
from a recognized University OR DOEACC 'A' Level OR Three year Graduation with 2 year diploma from NIIT /  
APTECH, thereafter

M.Sc.(IT) 1 <sup>st</sup> SEMESTER
Introduction to Information Technology
Computer Programming using C
Computer Organization and Architecture
Mathematical Foundation of Comp. Science
Operating Systems
Programming Lab-I

M.Sc.(IT) 2 <sup>nd</sup> SEMESTER
Object Oriented Programming Using C++
Data and File Structures
Visual Basic
RDBMS and Oracle
Programming Lab-II
Programming Lab-III

M.Sc.(IT) 3 <sup>rd</sup> SEMESTER
Web Technology
Java Programming
Software Engineering
Computer Networks
Programming Lab-IV (Web Technology)
Programming Lab-V (Java Programming)

M.Sc.(IT) 4 <sup>th</sup> SEMESTER
Computer Graphics
Linux Administration
Modern Information Systems
Artificial Intelligence
Programming Lab-VI (Computer Graphics)
Programming Lab-VII (LINUX Administration)

## Post Graduate Diploma in Computer Applications (PGDCA)

The programme aims at realising the following objectives-

- Providing specialisation in computer science with technical, professional and communications skills.
- Train future industry professionals.

**Eligibility: 3 year Graduation**

PGDCA 1 <sup>st</sup> SEMESTER
Fundamentals of InformationTechnology
Operating Systems
Problem Solving using 'C' Language
Software Lab - I Office Auto. and Product. Tools
Software Lab - II Prog. Fund. through "C" Lang.

PGDCA 2 <sup>nd</sup> SEMESTER
Object Oriented Programming with C++
Database Management System
Introduction to Computer Network, Internet & E-Commerce
Software Lab - III Web Designing, HTML & RDBMS
Software Lab - IV C++ Programming

## BACHELOR IN SCIENCE-NON MEDICAL (B.SC.-NON MEDICAL)

Bachelor of Science (B. Sc.) is one of the most popular academic degree courses among the science students after class 12th. The duration of B. Sc. degree is of 3 years. The B. Sc. degree course is a full time graduate degree course in Science. This course forms the basis of science and comprises of the subjects like physics, chemistry, biology, zoology and mathematics.

**Career opportunities:** After the completion of the B. Sc. degree there are various options available for the science students, they can go for master degree in Science i.e. M. Sc., go in a research area and can even look for professional job oriented courses. Often, in some reputed universities or colleges in India and abroad the students are recruited directly by big MNC's after their completion of the course.

**Eligibility: 10+2 Non-medical (Physics, Chemistry & Mathematics)**

B.Sc. Non Med. 1 <sup>st</sup> SEMESTER
English
Math-Calculus
Math- Differential Equations
Math-Co-ordinate Geometry
Physics- Mechanics-I
Physics- Vibrations and Waves-I
Physics- Electricity and Magnetism-I
Physics-Practical
INORGANIC CHEMISTRY
ORGANIC CHEMISTRY
Physical CHEMISTRY
Chemistry Practical

B.Sc. Non Med. 3 <sup>rd</sup> SEMESTER
English
Physics: Stat.Phy.& Thermodyn.-I
Physics: Optics
Physics: Quantum Mechanics-I
Physics Practical Lab
Chemistry: INORGANIC CHEMISTRY
Chemistry: ORGANIC CHEMISTRY
Chemistry: PHYSICAL CHEMISTRY
PRACTICAL CHEMISTRY-I
Math: Advanced Calculus
Math: ANALYSIS-I
Math: STATICS
Math: Numerical Methods

B.Sc. Non Med. 5 <sup>th</sup> SEMESTER
Punjabi
Math: Algebra-I
Math: Discrete Mathematics- I
Option(Any one)
Math: Mathematical Methods-I
Number Theory-I
CHEMISTRY : INORGANIC CHEMISTRY
CHEMISTRY : ORGANIC CHEMISTRY
CHEMISTRY : PHYSICAL CHEMISTRY
CHEMISTRY : PRACTICAL CHEMISTRY-I
PHYSICS : Condensed Matter Physics-I
PHYSICS : Electronics-I (Elect.& Solid State Devices)
PHYSICS : Nuclear and Radiation Physics
PHYSICS : Practicals

B.Sc. Non Med. 2 <sup>nd</sup> SEMESTER
Punjabi
Math-Algebra-I
Math- Partial Differential Equations
Math-Analytical Geometry
Physics- Mechanics-II
Physics- Vibrations and Waves-II
Physics- Electricity and Magnetism-II
Physics-Practical
INORGANIC CHEMISTRY
ORGANIC CHEMISTRY
Physical CHEMISTRY
Chemistry Practical

B.Sc. Non Med. 4 <sup>th</sup> SEMESTER
English
Punjabi
Math: Numerical Methods
Math: DYNAMICS
Math: Analysis-II
Chemistry: INORGANIC CHEMISTRY
Chemistry: ORGANIC CHEMISTRY
Chemistry: PHYSICAL CHEMISTRY
PRACTICAL CHEMISTRY-I
Physics: Statistical Phy. & Thermodyn.-II
Physics: Lasers
Physics: Quantum Mechanics-II
Physics Practical Lab
Environment Science

B.Sc. Non Med. 6 <sup>th</sup> SEMESTER
Punjabi
PHYSICS: Condensed Matter Physics-II
PHYSICS: Electronics-II
PHYSICS: Nuclear and Particle Physics
PHYSICS: Practicals
CHEMISTRY : INORGANIC CHEMISTRY
CHEMISTRY : ORGANIC CHEMISTRY
CHEMISTRY : PHYSICAL CHEMISTRY
CHEMISTRY : PRACTICAL CHEMISTRY-I
Math: Algebra - II
Math: Discrete Mathematics- II
Option (Any one)
Math: Mathematical Methods-II
Number Theory-II

## BACHELOR IN HONS. AGRICULTURE (B.SC.HONS. IN AGRICULTURE)

It is a 4 years Undergraduate Bachelor Degree program. B.Sc. Hons. in Agriculture program consists of topics such as- agriculture science, use of modern scientific equipment and techniques in agriculture, land surveying, soil science, water resource management, animal and poultry management, basics of biotechnology etc. The main aim of this program is to use the above mentioned concepts to train students and to improve agriculture productivity, manage products and pave way for future developments through research activities. This program aims at combining concepts of Biology, Technology and Agriculture Science to boost Agricultural Productivity.

**Job Career opportunities:** Lots of Government as well as Private job opportunities are available in front of Graduates. Talking about Government jobs, State Agriculture Departments recruits Graduates to fill up Officer level posts. Government Banks also recruit Graduates to fill up Officer level posts (generally dealing with Loans). Talking about Private Sector jobs, graduates may find jobs as Managers at Plantations, as Officers at Fertilizer Manufacturing firms, Agriculture Machinery Industries, Agricultural Products Marketing firms, Food processing units etc.

**Eligibility: 10+2 Non-medical/Medical/Vocational in agriculture is eligible for first year**

B.Sc.Hons. in Agri. 1 <sup>st</sup> SEMESTER
Fundamental of Agronomy
Introductory Agrometerology
Fundamental of Soil Science
Agriculture Microbiology
Fundamental of Agriculture Economics
English
Punjabi / Mudla Gyan (Qualifying Paper)
Optional
Mathematics (For Medical students)
Basic Botany (For Non-Medical students)

B.Sc.Hons. in Agri. 3 <sup>rd</sup> SEMESTER
Fundamental of Entomology
Production Technology of Fruit Crops
Crop Production Technology-I (Kharif Crops)
Principles of Plant Breeding
Farm Machinery & Power
Mannures, Fertilizers & Soil Fertility Management
Fundamental of Crop Physiology
Punjabi / Mudla Gyan

B.Sc. Hons. in Agri. 5 <sup>th</sup> SEMESTER
Statistical Methods
Diseases of Horticultural Crops & their Management
Production Technology for Ornamental Crops & Landscaping
Principles of Food Science & Post-Harvest Mgt.
Fundamental of Agriculture Extension
Crop Improvement
Introduction to Biotechnology
Punjabi Compulsory(For Punjab State Students)
/Punjabi Mudhla Gyan(for Other State Students)

B.Sc.Hons. in Agri. 2 <sup>nd</sup> SEMESTER
Fundamental of Plant Pathology
Fundamentals of Horticulture
Introductory Forestry
Principles of Genetics
Fundamentals of Biochemistry
English
Punjabi / Mudla Gyan (Qualifying paper)
Drug Abuse:Problem,Mgt. & Prevention(Qualifying paper)
Optional
Mathematics-II (For Medical students)
Basic Zoology (For Non-Medical students)

B.Sc.Hons. in Agri. 4 <sup>th</sup> SEMESTER
Crop Production Technology-II (Rabi Crops)
Principles of SEED Technology
Pests of crops and stored Grain and their Mgt.
Livestock Production and Poultry Mgt.
Soil & Water Conservation Engineering
Production Technology for Vegetable Crops
Disease of Field Crops & their Management
Punjabi /Mudla Gyan
Environmental & Road Safety Awareness(Qualifying Paper)

B.Sc.Hons in Agri. 6 <sup>th</sup> SEMESTER
Integrate Pest & Disease Mangement
Post-Harvest Management of Horticultural Crop & Value Addition
Dairy Technology
Principles of Organic Farming
Computer Application in Agriculture
Analytical Techniques in Soil,Plant,Fertilizer & Water
Production Tech. of Spices,Plantation,Medicinaland Aromatic Plants
Punjabi / Punjabi Mudhla Gyan

## BACHELOR IN COMMERCE (B.COM.)

Bachelor of commerce is the 3 year under graduate course modeled to offer the student with a number of management skills and at the same time also building in them proficiency in a specific area. The Bachelor of commerce is a career oriented course which provide a foundation in all aspects of commerce . The Bachelor of Commerce degree is designed to provide a student with a wide range of managerial skills while at the same time, builds competence in a particular area of business studies .

**Career opportunities:** There is a big scope for students who have completed their bachelor's degree in commerce, both in terms of higher education as well as immediate jobs. Education in the concerned field is an excellent base for a variety of careers. On successful completion of B.com, students can apply for jobs relating business and finance. Professionals can apply for employment in finance sectors like banking, company secretary ship, chartered accounting, cost and work accountancy jobs. They can also apply for non finance sector jobs in mass communication, law , hotel management, civil services and so on.

**Eligibility: A candidate must be +2 in commerce stream with any % or must have 50% marks in Humanities or Sciecne from a recognised education board.**

B.Com 1 <sup>st</sup> SEMESTER
Punjabi Comp./Elementary Knowledge-I
English(Communication Skills)
Financial Accounting -I
Business Laws - I
Computer Applications in Business
Principles of Economics - I

B.Com 2 <sup>nd</sup> SEMESTER
Punjabi Comp./Elementary Knowledge-II
English (Communication Skills)
Financial Accounting-II
Business Laws - II
Business Mathematics
Principles of Economics - II
Drug Abuse:Problem,Management & Prevention

B.Com 3 <sup>rd</sup> SEMESTER
Punjabi Comp.Elementary Knowledge
English (Communication Skills)
Principles of Business Management
Corporate Accounting - I
Income Tax Law - I
Business Statistics

B.Com 4 <sup>th</sup> SEMESTER
Punjabi Comp./Elementary Knowledge
English(Communication Skills)
Company Law
Corporate Accounting- II
Income Tax Law - II
Operation Research
Environment & Road Safety Awareness(Qualifying paper)

B.Com 5 <sup>th</sup> SEMESTER
Punjabi Comp./Elementary Knowledge
Management Accounting-I
Cost Accounting-I
Indirect Taxes
Gov., Ethics and Social Resp. of Business
Any ONE Paper from Following streams
<b>Stream-I : Finance</b>
Corporate Finance
<b>Stream-II : Marketing</b>
Principles of Marketing
<b>Stream-III : Banking and Insurance</b>
Money and Banking
<b>Stream-IV : E-Commerce</b>
Essentials of E-Commerce

B.Com 6 <sup>th</sup> SEMESTER
Punjabi Comp./Elementary Knowledge
Management Accounting-II
Cost Accounting-II
Business Environment
Fundamentals of Entrepreneurship
Any ONE Paper from the same stream which was opted in Semester-V.
<b>Stream-I : Finance</b>
Financial Planning
<b>Stream-II : Marketing</b>
International Marketing
<b>Stream-III : Banking and Insurance</b>
Fundamentals of Insurance
<b>Stream-IV : E-Commerce</b>
Internet and World Wide Web



## BACHELOR IN COMPUTER APPLICATIONS (BCA)

Fast growing information technology and communication systems have become critical components of almost every company's strategic plan. India has witnessed an immense boom in the IT sector in the recent few years and the related opportunities in computer field has increased tremendously. Companies which want to take advantage of the new information technologies and communication systems require expert professionals, who can apply computer science principles to solve problems produced by the interface between business and technology. BCA is a three year undergraduate program where students are exposed to various areas of computer applications including the latest developments keeping pace with the industry. Aryabhata offers 3 year full time BCA program Affiliated to Punjabi University, Patiala

### The course aims at realizing the following student objectives :

- To demonstrate a sound knowledge in key areas of computer science and industrial computing.
- To demonstrate a substantial understanding of concepts in key areas of computer science.
- To carry out the required analysis and synthesis involved in computer systems, information systems and computer applications.
- To demonstrate professional competence in developing software and in its design and implementation.
- To develop sound practical skills to enable them to handle problems which arise in computer systems and applications.

**Eligibility: A candidate must be +2 in any stream (Humanities, Commerce or Science) from a recognised education board.**

BCA 1 <sup>st</sup> SEMESTER
General English - I
Punjabi (Compulsory) or (Mudla Gyan)
Fundamentals of Information Technology
Programming Fundamentals using C
Software Lab-I (Windows & Office Auto.)
Software Lab-II (Prog. Fund. using C)

BCA 2 <sup>nd</sup> SEMESTER
General English - II
Punjabi (Compulsory) or (Mudla Gyan)
Digital Electronics
Data Structures
Basic Mathematics
Software Lab-III (Data Structures)
Drug Abuse : Problem, Mgt. & Prevention

BCA 3 <sup>rd</sup> SEMESTER
English Communication Skills - I
Discrete Mathematics
Comp. System Org. and Architecture
Object Oriented Programming using C++
Fund. of Database Management System
Software Lab - IV (Object Oriented Prog. using C++)
Software Lab-V (DBMS using MS Access Lab)
Punjabi (Compulsory) or (Mudla Gyan)

BCA 4 <sup>th</sup> SEMESTER
English Communication Skills - II
Computer Networks
Management Information Systems
Comp. Oriented Num. & Stat. Methods
Relational Database Mgt. Sys.with Oracle
Software Lab - VI Comp. Oriented Num. & Stat. Methods
Software Lab-VII Oracle Lab
Environmental and Road Safety Awareness(Qualifying Exam)
Punjabi (Compulsory) or (Mudla Gyan)

BCA 5 <sup>th</sup> SEMESTER
English Literary Skills-I
System Analysis and Design
System Software
Java Programming
Web Designing using HTML and DHTML
Software Lab - IX Java Programming
Software Lab - X Web Designing using HTML and DHTML
Punjabi (Compulsory) or (Mudla Gyan)

BCA 6 <sup>th</sup> SEMESTER
English Literary Skills - II
E-Commerce
Operating Systems
Software Engineering
Web Designing using ASP.NET
Software Lab - XI Java Programming
Software Lab - XII Web Designing using ASP.NET
Punjabi (Compulsory) or (Mudla Gyan)

## BACHELOR IN BUSINESS ADMINISTRATION (BBA)

A programme that came into national consciousness, in the wake of the MBA boom, it is one of the most hyped degrees in the country to an MBA both in structure and level of specialization it offers, the course ideally must have been enough to make you eligible for entry level position in corporations and factories. But since MBA-level graduates are aplenty, barring a few leading colleges, a BBA never gets you a job. You will be forced to pursue an MBA.

Course overview: You will study the basics of commerce, trade and accountancy along with elementary mathematics in the first year. Functional subject like marketing and HR will be taught in the second year as well as computing subjects. The final year lets you specialize in one two functional areas.

Job opportunities: A BBA gets you entry-level positions in many corporations and factories. You would do lot of backend work and provide support services to your seniors. Exceptional candidates could expect to do some customer interface though it is very rare. Also invariably, you would hit the glass ceiling very fast, and would require an MBA to move up the ladder.

**Eligibility: A candidate must be +2 in any stream (Humanities, Commerce or Science) from a recognised education board.**

BBA 1 <sup>st</sup> SEMESTER	BBA 2 <sup>nd</sup> SEMESTER	BBA 3 <sup>rd</sup> SEMESTER
Comm. Skills in Punjabi/ Elementary Punjabi	Comm. Skills in Punjabi/ Elementary Punjabi	Principles of Human Resource Mgt.
Business Economics-I	Communication Skills in English	Business Accounting
Business Mathematics	Business Economics-II	Principle of Marketing Management
Business Organization and Mgt. Principles-I	Business Statistics	Business Laws
Workshop on Computer Applications	Business Organization and Mgt. Principles-II	Workshop on Contemporary Bus. Issues
Seminar	Workshop on Internet & E-Commerce	Seminar on Knowledge Management
	Seminar	Comm.Skills In Punjabi/Elem. Punjabi
	Viva-Voce	
	Drug Abuse : Problem, Mgt. & Prevention	
BBA 4 <sup>th</sup> SEMESTER	BBA 5 <sup>th</sup> SEMESTER	BBA 6 <sup>th</sup> SEMESTER
Financial Management	Comm. Skills in Punjabi/Elementary Punjabi	Industrial Training Project
Workshop on Creativity & Innovation	Business Research Methods	Project Report
Seminar On Entrepreneurship	workshop on Time & Workload Management	Seminar on The Project Report
Viva-voce	Seminar on Summer Inernship	Viva-voce
Choose Any 3 sub. from not more than 2 func. areas	Choose Any 3 sub. from not more than 2 func. areas	
<b>Marketing Management</b>	<b>Marketing Management</b>	
Retailing Management	Export Marketing	
Advertisement & Sales Management	Rural Marketing	
Marketing of Services	Brand And Product Managementh	
<b>Human Resource Management</b>	<b>Human Resource Management</b>	
Career Planning & Management	interpersonal Skills In Management	
Training & Development	Management of Industrial Relations	
Management of Change	Psychological Testing	
<b>Finance</b>	<b>Finance</b>	
Cost & Management	Stock Market Operations	
Accounting financial instruments & Services	Insurance Management	
income Tax Law & Practice	Investment Management	
<b>Information Technology</b>	<b>Information Technology</b>	
System Analysis And Design	Database Management systems	
Decision support Systems	Web Designing	
Computer Graphics	Telecommunications For Business	
<b>Event Management</b>	<b>Event Management</b>	
Event Planning & Management	Event Design And Sponsorship	
Financial management Of Events	Event Operations And Logistics	
Event Creativity And Innovation	Event Proposal And Marketing	
<b>Media Management</b>	<b>Media Management</b>	
Principles Of Mass Communications	Corporate Communication	
Public Relations Management	New Media Technology	
Media Planning	Development Communication	
Communication Skills In Punjabi/elementary Punjabi		
Environmental Studies And Road Safety		



## BACHLOR OF ARTS (B.A.)

A Bachelor of Arts is a broad interdisciplinary undergraduate degree program encompassing general education, electives and major area of study courses. As opposed to a Bachelor of Science program, B.A. programs generally give you more flexibility in choosing your courses and are less specialized. By taking courses in the arts and humanities, you can deepen your cultural understanding and awareness, in addition to developing analytical, critical thinking, written and communication skills.

There is a big scope for students who have completed their bachelor's degree in Arts, both in terms of higher education as well as immediate jobs. Education in the concerned field is an excellent base for a variety of careers. After completing several general education courses, you can choose a major from a number of academic areas, such as social sciences, behavioral sciences and fine arts. A Bachelor of Arts degree may be appealing because of its broad and well-rounded approach, which can offer versatility and options when seeking a career or a graduate degree. B.A. programs often offer study abroad possibilities, online education, and continuing education for advanced degrees. B.A. Degree is foundational education for lawyers, teachers, architects, and communication professionals

**Eligibility: A candidate must be +2 in any stream (Humanities, Commerce or Science) from a recognised education board.**

We have different subject combinations available in the campus.

**History/Mathematics**  
**Punjabi Literature/English Literature**  
**Political Science**  
**Economics**  
**Physical Education**

Student has to choose three subjects out of the four mentioned.



Source : <http://www.pseb.ac.in>

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## ABOUT PSEB, MOHALI



The Punjab School Education Board came into existence through a legislative enactment in November 1969 for the development and promotion of school education in the state of Punjab. In 1987, the Vidhan Sabha amended the Board's Act to grant it autonomy. The scope of Board's functions is very wide and covers almost every aspect/stage of school education. However, a brief account of functions, structure and activities of the Board is enumerated as below:

Functions of The Board:

1. To make necessary arrangements for smooth conduct of public examination at school level .At present the Board conducts public examinations at Middle, Matriculation and Senior Secondary Level.
2. To prescribe the curriculum, courses of studies and text books for school education. The Board has a full- fledged academic wing, having subject experts in all the major subjects. The main responsibility of this wing is to prepare and revise the syllabuses regularly and then prepare text books accordingly.
3. To arrange for the preparations, compilation, improvement, publication, printing and sale of text books.
4. To make necessary arrangements for affiliations of schools to the Board.
5. To make efforts to bring about qualitative improvement in school education.
6. To act as an advisory body to the state Govt. regarding School Education. this Act.



# COURSES OFFERED

**AFFILIATED WITH PUNJAB SCHOOL EDUCATION BOARD, MOHALI  
AND APPROVED BY GOVT. OF PUNJAB**

Our courses are designed and regularly reviewed with the support of our Advisory Panel to ensure that the content and delivery are relevant to today's world. They will keep you up to date with the latest industry developments and equip you with the appropriate technical/management and teaching skills to enable you to walk the extra mile to achieve success.

**10+1**  
Arts | Commerce

**10+2**  
Arts | Commerce

10+1 ARTS
General English
General Punjabi/Punjabi History and Culture
Environmental Education
Computer Science
Choose any three
History/Mathematics
Punjabi Literature/English Literature
Economics
Political Science
Physical Education

10+1 COMMERCE
General English
General Punjabi/Punjabi History and Culture
Environmental Education
Computer Science
Business Studies
Accountancy-I
Business Economics and Quantitative Methods -I
Fundamental of E-Business

10+2 ARTS
General English
General Punjabi/Punjabi History and Culture
Environmental Education
Computer Science
Choose any three
History/Mathematics
Punjabi Literature/English Literature
Economics
Political Science
Physical Education

10+2 COMMERCE
General English
General Punjabi/Punjabi History and Culture
Environmental Education
Computer Science
Business Studies
Accountancy-I
Business Economics and Quantitative Methods -I
Modern Office Practices



# ARYABHATTA

Call or SMS 99880-25700, 99881-32700

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