

## Director's Message



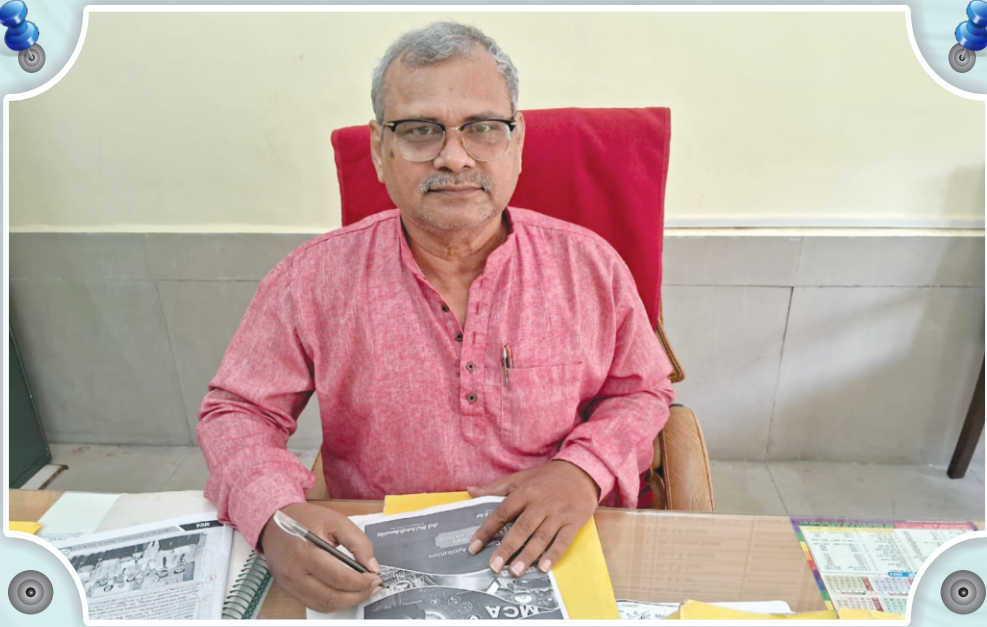
College of Commerce, Arts and Science, Patna is a NAAC Re-accredited Grade 'A' College, now a constituent unit of Patliputra University, Patna. The college was established in 1949 with a pious motive to impart quality education and is continuing with success stories in this endeavour. In this college the post graduate course in computer applications, MCA, was approved by AICTE in 2016 .

It aims at preparing the students as skilled professionals in the field of Computer Science application and Information Technology, catering to the latest demand of such professionals. The CBCS curriculum has been enriched here incorporating latest developments in the field of dynamic and fast growing software industries and IT sector in order to provide promising allied career avenues to the students. The mission is to impart a world class knowledge base of latest technologies and advancements. I take this opportunity to thank all the teachers, students and non-teaching staffs for their keen interest and active participation in teaching learning process. Last but not the least, I wish bright future and grand success to all concerned !

**Prof. (Dr.) Indrajit Prasad Roy**  
*Principal-cum-Director*  
**College of Commerce, Arts & Science**  
Patna - 800 020



## *From Co-ordinator's Desk*



It is a matter of great pride that College of Commerce, Arts & Science, Patna has been crowned with consistent progress year by year in academic and co-curricular activities. The College is NAAC Re-accredited (2016-) Grade 'A' and is going under the next cycle for this. It is a premier institution in Bihar in terms of its standard of academic excellence and commitment to quality education. Department of MCA forms its integral part right from recommendation and course approval by AICTE, India in 2016 with 3 year MCA course. From session 2020-22, the MCA course reduced to as 2 year CBCS course as per guidelines of AICTE. We envision that only acquiring degrees is not sufficient in present scenario. Student is required not only to achieve peak of knowledge and skill, one should be employable too. We have career counselling at this end. Our library and laboratory add essential features to this endeavour.

A holistic education includes all round development of a student. The MCA department is committed to equip the students for the challenges in their lives with great motivation. This will require perseverance, proficiency and performance on the part of all concerned.

I feel great pleasure in wishing you all laurels after laurels in your lives!

**Prof. (Dr.) Bidhan Chandra Rai**

**Co-ordinator, MCA Course**

**College of Commerce, Arts & Science**

**Patna - 800 020**

## About MCA Department

The Department of MCA came into being in the year 2016, with an intake of 60 students. It is approved by AICTE.

The Department is bestowed with an experienced faculty members with excellent academic records and proficiency. With excellent infrastructure, the labs are well equipped with all softwares where students can develop extra potential beyond books by practical classes.

The department provides students opportunities to participate in various workshops in collaboration with industries to keep them abreast of the latest knowledge. It also conducts lecture series of eminent personalities from the industry and academia.

In this era of technology explosion, the department is dedicated to maintain the high standard of excellence through quality assurance, technology up date and innovation in all areas of Computer Application. Realizing the importance of multinational companies eyeing India as the bastion for software production, the department objective is to train the students in both theory and practice on one side and in software and hardware development on other side, so that they become competent software and hardware professionals. In short, The department aims to prepare employable candidates with values and vision.



### Our Directors

Prof. (Dr.) Baban Singh	2016-2017
Dr. Tapan Kumar Shandilya	2017-2022
Prof. (Dr.) Indrajit Prasad Roy	2022-

### Our Co-ordinators

Dr. Gagendra Prasad Gadkar	2016-2019
Dr. Vijay Kumar	2019-2022
Prof. (Dr.) Bidhan Chandra Rai	2023-

### VISION

- To provide valuable citizens for the country and society through the excellence in technical education and research.

### MISSION

- To generate latest knowledge in IT industry.
- To develop human intellectual capability to its fullest potential.
- To educate students professionally to face social challenges by providing healthy learning environment.



## Admission Procedure

Candidates wishing for admission are requested to submit their online application on the prescribed Application Form along with a copy of mark sheet of graduate examination. The cost of the Application form is Rs. 800./- in cash.

## Eligibility For Admission

Graduate (10+2+3) with Mathematics/Statistics/Business Mathematics/Computer either at graduation or intermediate/+2 Level obtaining at least 50% aggregate marks at graduate level.

## Entrance Test For Admission

The candidates wishing for admission are requested to submit their online application the official website of Patliputra University. [www.ppu.ac.in](http://www.ppu.ac.in) prescribed application form cost as per the norms of the university.

After wads an entrance that will be conducted by Patliputra University in order to short list the applicants. The admission will be confirmed in our college if you are shortlisted for our college.

## Reservation Policy

As per norms of Bihar Govt. Bihar.

## Fee Structure

As per guide lines of Patliputra University, Patna and college administration which is subject to change.



## Mode of Payments

Payment of fee and other charges should preferably be made by Crossed Bank Draft/online mode payable to “COCAS Vocational Course Fund”

## Documents Required For Admission

- ❖ Photocopy for 10<sup>th</sup> Board Certificate (Date of Birth)
- ❖ Photocopy for (10+2)<sup>th</sup> or Intermediate Board/Equivalent passing Certificate.
- ❖ Original Marks-Sheet of Intermediate Board/Equivalent Board Certificate.
- ❖ Original Marks Sheet of Honours.
- ❖ Original College Leaving Certificate.
- ❖ Original Migration Certificate for other University.
- ❖ Cast Certificate with category declared if belong to SC, ST or OBC (annexure I and II)
- ❖ Number of recent Passport Size Photographs-5

## Registration

All students enrolled in MCA are required to apply for registration as per Patliputra University rules. Available on the [www.ppu.ac.in](http://www.ppu.ac.in)

## Attendance Compulsion

Each & every student of Regular Course must register minimum 75% attendance in classes. No student with less than 75% attendance will be allowed to write/appear at university examinations.



## Infrastructure

- ❖ Smart Class Room
- ❖ Lab Infrastructure
- ❖ Library-Cum-Reading Room
- ❖ Conference-Cum-Seminar Hall
- ❖ Girl's and Boy's Common Room
- ❖ Placement Cell
- ❖ Cafeteria



## MASTER OF COMPUTER APPLICATION (MCA) 2 YEARS (4 SEMESTERS) PROGRAMME SCHEME

	Core Courses Compulsory(CCC)	Core Courses Elective(CCE)	Skill Enhancement Courses(SEC)	Open Electives(OE)
<b>Semester</b>	4 Professional Core Courses of 5 Credits 4 * 5 = 20 Credits	Professional Elective Courses of 5 Credits (Choose 2 Courses) 2 * 5 = 10 Credits	Professional Skill Oriented Courses of 5 Credits (Choose 2 Courses) 2 * 5 = 10 Credits	Optional Certification Courses May Be Adopted By Candidate
<b>I</b>	<ul style="list-style-type: none"> <li>• Database Management System</li> <li>• Data Structures and Algorithms With 'C'</li> <li>• Operating Systems</li> <li>• Practical Examination</li> </ul>	<ul style="list-style-type: none"> <li>• Programming with VB.Net and ASP.Net</li> <li>• Computer Organization and Architecture</li> <li>• Discrete Mathematics</li> </ul>	<ul style="list-style-type: none"> <li>• Linux Server Administration</li> <li>• Management Information Systems</li> <li>• Internet of Things</li> <li>• E-Commerce</li> </ul>	SWAYAM Certification – 1 (CEC/NPTEL/AICTE)
<b>II</b>	<ul style="list-style-type: none"> <li>• Programming with C++</li> <li>• Web Technologies</li> <li>• Data Communication and Computer Networks</li> <li>• Practical Examination</li> </ul>	<ul style="list-style-type: none"> <li>• Programming in Python</li> <li>• Computer Graphics</li> <li>• Statistical Methods</li> </ul>	<ul style="list-style-type: none"> <li>• Programming in Python</li> <li>• Computer Graphics</li> <li>• Statistical Methods</li> <li>• Data Mining and Business Intelligence</li> <li>• NOSQL Databases</li> <li>• Angular Java Script</li> <li>• Information Security</li> </ul>	SWAYAM Certification – 2 (CEC /NPTEL/AICTE)
<b>III</b>	<ul style="list-style-type: none"> <li>• Software Engineering</li> <li>• Java Programming</li> <li>• Design and Analysis of Algorithm</li> <li>• Practical Examination</li> </ul>	<ul style="list-style-type: none"> <li>• Big Data Analytics</li> <li>• Theory of Computation</li> <li>• Mobile Application Development</li> </ul>	<ul style="list-style-type: none"> <li>• Programming with R</li> <li>• Management Theory and Practices</li> <li>• Development and Operational Tools (DevOps)</li> <li>• Enterprise Resource Planning (ERP) and CRM</li> </ul>	SWAYAM Certification – 3 (CEC/NPTEL/AICTE)
<b>IV</b>	<ul style="list-style-type: none"> <li>• Practical Examination</li> <li>• Project Work (15 Credits)</li> </ul>	<ul style="list-style-type: none"> <li>• Cloud Computing</li> <li>• Artificial Intelligence and Machine learning</li> <li>• Cyber Security</li> </ul>	<ul style="list-style-type: none"> <li>• Programming with Go</li> <li>• Blockchain Technology</li> <li>• Digital Marketing</li> <li>• Data Visualization</li> </ul>	x





### SEMESTER – I

CC/CE/SE/OE	Paper Code	Paper Title	Hours Per Week			Credit	End Term Theory Exam Marks	Continuous Evaluation Marks	End Term Practical Exam Marks	Total
			L	T	P					
<b>CC (Core Compulsory)</b>	1MCACCC1	Database Management System	3	0	2	5	70	30	0	100
	1MCACCC2	Data Structure ans Algorithms with "C"	3	0	2	5	70	30	0	100
	1MCACCC3	Operating Systems	3	1	0	5	70	30	0	100
	1MCACCC4	Practical Examination	4	-	0	5	0	0	0	100
<b>CE (Select Any 2)</b>	1MCACCE(A)	Programing with VB.Net ans ASP.Net	3	0	2	5	70	30	0	100
	1MCACCE(B)	Computer Organization ans Architecture	4	1	0	5	70	30	0	100
	1MCACCE(C)	Discrete Mathematics	5	0	0	5	70	30	0	100
<b>SE (Select Any 2)</b>	1MCASEC(A)	Linux Server Administration	3	0	2	5	70	30	0	100
	1MCASEC(B)	Management Information Systems	4	1	0	5	70	30	0	100
	1MCASEC(C)	Internet of Things	3	0	2	5	70	30	0	100
	1MCASEC(D)	E-Commerce	4	1	0	5	70	30	0	100
<b>OE</b>	SWYAM1	---	-	-	-	-	-	-	-	-
<b>SEMESTER TOTAL</b>						<b>40</b>				<b>800</b>
<b>SEMESTER of Credit</b>		12 Hrs. Lecture (L) = 1 Credit			12 Hrs. Practical (P)=0.5 credit					
		12 Hrs. Tutorial (L) = 1 Credit			12 Hrs. Practical (Lab)=0.5 credit					

## SEMESTER-II

CC/CE/SE/OE	Paper Code	Paper Title	Hours Per Week			Credit	End Term Theory Exam Marks	Continuous Evaluation Marks	End Term Practical Exam Marks	Total
			L	T	P					
<b>CC(Core Compulsory)</b>	2MCACCC1	Programming with C++	3	0	2	5	70	30	0	100
	2MCACCC2	Web Technologies	3	0	2	5	70	30	0	100
	2MCACCC3	Data Communication and Computer Networks	4	1	0	5	70	30	0	100
	2MCACCC4	Practical Examination	-	-	-	-	-	-	-	100
<b>CE(Select Any 2)</b>	2MCACCE(A)	Programming in Python	3	0	2	5	70	30	0	100
	2MCACCE(B)	Computer Graphics	4	1	0	5	70	30	0	100
	2MCACCE(C)	Statistical Methods	5	0	0	5	70	30	0	100
<b>SE(Select Any 2)</b>	2MCASEC(A)	Data Mining and Business Intelligence	3	0	2	5	70	30	0	100
	2MCASEC(B)	NOSQL Database	4	1	0	5	70	30	0	100
	2MCASEC(C)	Angular Java Script	3	0	2	5	70	30	0	100
	2MCASEC(D)	Information Security	4	1	0	5	70	30	0	100
<b>OE</b>	SWYAM2	---	-	-	-	-	-	-	-	-
<b>SEMESTER TOTAL</b>						<b>40</b>				<b>800</b>

<b>SEMESTER of Credit</b>	12 Hrs. Lecture (L) = 1 Credit	12 Hrs. Practical (P)=0.5 credit
	12 Hrs. Tutorial (L) = 1 Credit	12 Hrs. Practical (Lab)=0.5 credit



### SEMESTER-III

CC/CE/SE/OE	Paper Code	Paper Title	Hours Per Week			Credit	End Term Theory Exam Marks	Continuous Evaluation Marks	End Term Practical Exam Marks	Total
			L	T	P					
<b>CC(Core Compulsory)</b>	3MCACCC1	Software Engineering	3	0	2	5	70	30	0	100
	3MCACCC2	Java Programming	3	0	2	5	70	30	0	100
	3MCACCC3	Design and Analysis of Algorithm	3	1	0	5	70	30	0	100
	3MCACCC4	Practical Examination	4	-	0	5	0	0	0	100
<b>CE(Select Any 2)</b>	3MCACCE(A)	Big Data Analytics	3	0	2	5	70	30	0	100
	3MCACCE(B)	Theory of Computation	4	1	0	5	70	30	0	100
	3MCACCE(C)	Mobile Application Development	5	0	0	5	70	30	0	100
<b>SE(Select Any 2)</b>	3MCASEC(A)	Programming with R	3	0	2	5	70	30	0	100
	3MCASEC(B)	Management Theory and Practices	4	1	0	5	70	30	0	100
	3MCASEC(C)	Development and Operational Tools (DevOps)	3	0	2	5	70	30	0	100
	3MCASEC(D)	Enterprise Resource Planning(ERP) and CRM	4	1	0	5	70	30	0	100
<b>OE</b>	SWYAM3	---	-	-	-	-	-	-	-	-
<b>SEMESTER TOTAL</b>						<b>40</b>				<b>800</b>

<b>SEMESTER of Credit</b>	12 Hrs. Lecture (L) = 1 Credit	12 Hrs. Practical (P)=0.5 credit
	12 Hrs. Tutorial (L) = 1 Credit	12 Hrs. Practical (Lab)=0.5 credit



### SEMESTER-IV

CC/CE/SE/OE	Paper Code	Paper Title	Hours Per Week			Credit	End Term Theory Exam Marks	Continuous Evaluation Marks	End Term Practical Exam Marks	Total
			L	T	P					
CC(Core Compulsory)	4MCACCC1	Practical Examination	3	0	2	5	70	30	0	100
	4MCACCC2	Project Work	3	0	2	5	70	30	0	100
CE(Select Any 2)	4MCACCE(A)	Cloud Computing	3	1	0	5	70	30	0	100
	4MCACCE(B)	Artificial Intelligence and Machine Learning	4	-	0	5	0	0	0	100
	4MCACCE(C)	Cyber Security	3	0	2	5	70	30	0	100
SE(Select Any 2)	4MCACCE(A)	Programming with Go	4	1	0	5	70	30	0	100
	4MCASEC(B)	Block Chain Technology	5	0	0	5	70	30	0	100
	4MCASEC(C)	Digital Marketing	3	0	2	5	70	30	0	100
	4MCASEC(D)	Data Visualization	4	1	0	5	70	30	0	100
<b>SEMESTER TOTAL</b>						<b>40</b>				<b>800</b>

<b>SEMESTER of Credit</b>	12 Hrs. Lecture (L) = 1 Credit	12 Hrs. Practical (P)=0.5 credit
	12 Hrs. Tutorial (L) = 1 Credit	12 Hrs. Practical (Lab)=0.5 credit

