MANGALAYATAN UNIVERSITY, ALIGARH

DIRECTORATE OF DISTANCE AND ONLINE EDUCATION

PROGRAMME PROJECT REPORT

BACHELOR OF COMPUTER APPLICATIONS (BCA) - ONLINE

2023-24

Introduction

The **Bachelor of Computer Applications** (BCA) Programme through online mode is a 3-year undergraduate degree programme that focuses on knowledge of the basics of computer application and software development. A BCA degree is considered to be at par with a B. Tech / BE degree in Computer Science or Information Technology. The degree helps interested students in setting up a sound academic base for an advanced career in Computer Applications. Its aim and scope is very focused in its approach to preparing a student for higher education as well as for competitive exams. It also provides a sound platform to the students with the requisite background to proceed with confidence for higher studies in the form of MCA, M.Sc. (IT) etc. Increasing numbers of students have become interested in BCA program, due to availability of jobs in government sector (through competitive exams) and making careers in higher education.

A. Programmer's Mission and Objectives

Mission:
- To cater and ensure excellent theoretical and practical training through teaching, counseling, and mentoring with a view to achieve professional and academic excellence.
- To connect with industry and incorporating knowledge for research enhancement.
- To generate, disseminate and preserve knowledge for the benefit and betterment of society.

Objectives:
- To educate and train individuals to be well prepared for higher education.
- To be able to engage independent and life-long learning.
- To develop professionally that ensures existence in the competitive world.

B. Relevance of the Programme with HEI's Missions and Goals

The Bachelor of Computer Applications programme is identifying the assumptions that frame thinking, actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions. The aim of the programme is to transmit concepts and complex information effectively which utilize knowledge to solve theoretical and applied problems. The stakeholder will show scientific temperaments in daily life and understand the moral dimensions of their decisions with responsibility for them including ability to engage in independent and life-long learning.

The goals of OL programme is to provide educational facilities to all qualified and willing persons who are unable to join regular courses due to personal or professional reasons. There are many potential learners who cannot afford to join regular courses due to professional responsibilities and personal commitments. The programme's objectives and goals are on the lines of HEIs vision and Mission.

Vision:

To brush up the ethical as well as technical skills in students so that they will become the preferable choice of a prospective employer.

Mission:

- To provide technical education to the students through well-equipped labs
- Giving personal attention to weaker students consequently, allowing them to cope up with other scholars
- To provide a student-friendly environment that is amicable for practical knowledge

C. Nature of Prospective Target Group of Learners

The Distance and Online Education at Mangalayatan University (MU) shall target the working professionals, as well as those who cannot attend a full-time programme due to constraints. We also welcome those candidates who want to see their career in the field of Basic Sciences. Students may complete their practical work/assignment through virtual lab mode. Desirous candidates of BCA program shall have to meet the eligibility norms as follows:

1. To obtain admission in BCA programme offered through OL mode, the learner must have completed 10+2 in Science stream.
2. The learner must have scored a minimum of 45% marks aggregately at 10+2 level.

D. Appropriateness of Programme to be conducted in OL mode to acquire specific skills and competence

The University has identified the following **Programme Outcomes (PO)** and **Programme Specific Outcomes (PSO)** as acquisition of specific skills and competence in BCA Programme.

Programme Outcomes (PO)

1. **Critical Thinking**: Develop proficiency of techniques, knowledge of vocabulary, to show creative, critical and philosophical thinking of work.

2. **Professional Skill:** Develop understanding of professional needs, responsibilities, and requirements as an art professional.

3. **Decision Making:** Show potential in providing creative solutions to communication of complex phenomena of print media such as books, magazines and newspaper, able to depict and perform.

4**. Social Interaction**: Elicit views of others, mediate disagreements and help reach conclusions in group settings.

5. **Ethics:** Recognize different value systems including their own, understand the moral dimensions of their decisions, and accept responsibility for them.

6. **Environment and Sustainability:** Understand the issues of environmental contexts and sustainable development.

7. **Self-directed and Life-long Learning:** Acquire the ability to engage in independent and life-long learning.

Programme Specific Outcomes (PSOs)

PSO1 **Professional Skills**: Attain the ability to design and develop computer applications, evaluate and recognize potential risks and provide innovative solutions.

PSO2 **Successful Career and Entrepreneurship**: Explore technical knowledge in diverse areas of Computer Applications and experience an environment conducive in cultivating skills for successful career, entrepreneurship and higher studies.

E. Instructional Design

The program is divided into six semesters and minimum credit requirement is 120 to get BCA degree through OL mode from Mangalayatan University. Minimum time period for acquiring BCA degree will be three years and maximum time (extended) period is six years.

S. No.	Course Code	Course Name	Credit	Continuous Assessment Marks	Term End Exam Marks	Grand Total
				Semester-I		
				Max. Marks	Max. Marks	
1	BCA –101	Mathematics-I	4	30	70	100
2	BCA –102	Computer Fundamental & Office Automation	4	30	70	100
3	BCA –103	Programming principles and Algorithms	4	30	70	100
4	AEC-101	English Communication-I	4	30	70	100
5	BCA-152	Programming & Algorithms Lab	2	0	100	100
6	BCA-151	MS Office Lab	2	0	100	100
Total			20	120	480	600

S. No.	Course Code	Course Name	Credit	Continuous Assessment Marks	Term End Exam Marks	Grand Total
				Semester-II		
				Max. Marks	Max. Marks	
1	BCA–201	Mathematics-II	4	30	70	100
2	BCA–202	Database Management System	4	30	70	100
3	BCA–203	'C' Programming	4	30	70	100
4	AEC-201	English Communication-II	4	30	70	100
5	BCA-251	DBMS Lab	2	0	100	100
6	BCA-252	C-Programming Lab	2	0	100	100
Total			20	120	480	600

		Semester-III				
S. No.	**Course Code**	**Course Name**	**Credit**	**Continuous Assessment Marks**	**Term End Exam Marks**	**Grand Total**
				Max. Marks	**Max. Marks**	
1	BCA –301	Discrete mathematics	4	30	70	100
2	BCA-302	Operating System	4	30	70	100
3	BCA –303	Data Structure with Programming in 'C'	4	30	70	100
4	BCA –304	Computer hardware technology & installation	4	0	100	100
5	BCA-352	Operating Systems Lab	2	0	100	100
6	BCA-351	Data Structure with Programming in 'C' Lab	2	0	100	100
Total			20	90	510	600

		Semester-IV				
S. No.	**Course Code**	**Course Name**	**Credit**	**Continuous Assessment Marks**	**Term End Exam Marks**	**Grand Total**
				Max. Marks	**Max. Marks**	
1	BCA-401	Computer Communication Networks	4	30	70	100
2	BCA-402	Computer Graphics & Multimedia Applications	4	30	70	100
3	BCA-403	Object Oriented Programming & C++	4	30	70	100
4	BCA-404	Designing with corel draw and photoshop	4	30	70	100
5	BCA-451	Graphics Lab	2	0	100	100
6	BCA-452	C++ Lab	2	0	100	100
Total			20	120	480	600

		Semester-V				
S.	**Course**	**Course Name**	**Credit**	**Continuous Assessment Marks**	**Term End Exam Marks**	**Grand**

No.	Code			Max. Marks	Max. Marks	Total
1	BCA-501	Java Programming & Dynamic Webpage Design	4	30	70	100
2	BCA-502	Information system : Analysis design & Implement	4	30	70	100
3	BCA-503	Web Designing	4	30	70	100
4	BCA-504	Software testing methodologies	4	30	70	100
5	BCA-551	Java Programming Lab	2	0	100	100
6	BCA-553	Web Designing Lab	2	0	100	100
Total			20	120	480	600

Semester-VI						
S. No.	Course Code	Course Name	Credit	Continuous Assessment Marks	Term End Exam Marks	Grand Total
				Max. Marks	Max. Marks	
1	BCA-601	Mobile Computing	4	30	70	100
2	BCA-602	Web Technology & Cyber Security	4	30	70	100
3	BCA-603	Software Engineering	4	30	70	100
4	BCA-653	Software Engineering Lab	2	0	100	100
5	BCA-652	Web Technology Lab	2	0	100	100
6	BCA-6P1	Project Viva -Voce	4	0	100	100
Total			20	90	510	600

MOOCS

The University shall give flexibility in opting for MOOC (Massive Online Open Courses) by the students pertaining to the prescribed curriculum and also the credits earned in the MOOC courses may be dealt as part of the evaluation scheme as per UGC (Open and Distance Learning Programmes and Online Programmes) Regulations, 2020.

Syllabi and Course Materials

Syllabi, PPR and self-learning materials are developed mostly by experienced faculty members of Mangalayatan University in consultation with contents experts and the same

will be forwarded to CIQA and Board of Studies/Academic Council/ Executive Council for further suggestions and approval.

Faculty and Support Staff

The University has identified the requisite faculty and support staff as mandated by the UGC and formally they shall be allocated the required positions from amongst the existing faculty exclusively for OL mode and fresh appointments as per requirement, shall be initiated for which Letter of Intent have been issued to the prospective faculty and staff. The course material prepared by this university will be on par with any open university/Distance education centre in the country.

Delivery Mechanism

The Online Learning (OL) of MU follows a modern ICT (Information & Communication Technology) enabled approach for instruction. The methodology of instruction in OL of MU is different from that of the conventional/regular programs. Our ODL & OL system is more learner-oriented and the learner is an active participant in the teaching-learning process. OL of MU academic delivery system comprises:

The Online learning at Mangalayatan University shall have the four quadrant approach as per the UGC (Credit Framework for Online learning courses through SWAYAM) Regulations, 2016. The University shells provide (1) Video Lectures (2) Specially developed self-learning material in the digital format (e – content), that can be downloaded. (3) Online live discussion for clarifying doubts and (4) Time to time online tests and assignments to test the understanding of the learners.

A. Study Material –

The study material in digital format (e – content) of the programme shall be supplied to the students unit - wise for every course.

B. Video Lectures –

The Video lectures as prescribed by the UGC Regulation shall be made available on the LMS portal of the University.

C. Online Counselling Sessions

The online counselling sessions shall be scheduled beforehand by the Subject Coordinator and informed to the learners. There shall be 6 online counselling sessions / contact classes of 2 hours each for a 4 credit course, held on Saturdays and Sundays. In case of 2 credits course there shall be 4 sessions of 2 hours each and in case of 6 credits course there shall be 8 sessions of 2 hours each.

D. Medium of Instruction
Medium of Course Instruction: English
Medium of Examination: English

Student Support Systems

The university will appoint programme coordinators, course coordinator and course mentors to facilitate the learners in their learning.

Finally, The university has made appropriate arrangements for various support services including online counselling and resource-oriented-services, evaluation methods for both on and off line modes for easy and smooth services to the students' through online mode.

F. Procedure for Admissions, Curriculum, Transaction and Evaluation

Admission Process

Admission to the BCA Programme will be done on the basis of screening of candidate's eligibility on first come first serve basis. The University will follow the reservation policy as per norms of the Government. Admission shall not be a right to the students and MU, DDOE shall retain the right to cancel any admission at any point of time if any irregularity is found in the admission process, eligibility etc.

Maximum Duration

A. The maximum duration of the BCA Programme is Six years. Thereafter, students seeking completion of the left-over course(s) will be required to seek fresh admission.
B. The student can complete his programme within a period of 6 years failing which he/she shall seek fresh admission to complete the programme.

Eligibility

10+2 in PCM from any recognized board.

Fee Structure

Name of the Program	Degree	Duration	Total Fees (All Inclusive) Indian Nationals			Total Fees (All Inclusive) Foreign Nationals ($)		
			Semester	Full Year	Total	Semester	Full Year	Total
Bachelor of Computer Applications (BCA)	**UG**	**3-6 Years**	16000	32000	96000	345	690	2070

Activity Schedule

S.NO.	Name of the Activity	Tentative months schedule (specify months) during year			
		From(Month)	To (Month)	From(Month)	To (Month)
1	Admission	Jul	Sep	Jan	Mar
2	Assignment submission (if any)	Sep	Oct	Mar	Apr
3	Evaluation of assignment	Oct	Nov	Apr	May
4	Examination	Dec	Dec	Jun	Jun
5	Declaration of result	Jan	Jan	Jul	Jul
6	Re-registration	Jul	Jul	Jan	Jan
7	Distribution of SLM	Jul	Sep	Jan	Mar

8	Contact programmes (counselling, practicals, etc.)	Sep	Nov	Mar	May

Credit System

MU, DDOE proposes to follow the 'Credit System' for most of its programs. Each credit amounts to 30 hours of study comprising all learning activities. Thus, a 8 credit course requires 240 hours, 6 credit course requires 180 hours , 4 credit course requires 120 hours and

2 credit course requires 60 hours of study. This helps the student to understand the academic effort to complete a course. Completion of an academic programme requires successful clearing of both, the assignments and the term-end examination of each course in a programme.

Duration of the Programme	Credits	Name of the Programme	Level of the Programme
3 to 6 Yrs	**120**	**BCA**	**Bachelor's Degree**

Evaluation

Assignments

Admission to the BCA programme will be done on the basis of screening of candidate's eligibility on first come first serve basis. Admission shall not be a right to the students and MU, DDOE shall retain the right to cancel any admission at any point of time if any irregularity is found in the admission process, eligibility etc.

Evaluation: The evaluation system of the programme is based on two components:

A. **Continuous Evaluation in the form of assignments (weightage 30%):** This Component carries a weightage of 30%. There will be at least one graded assignment and test per course. These assignments are to be submitted to the Programme Co-ordinator of the DDOE.

B. **Term-end examination (weightage 70%):** Proctored online examination will be held twice every year in the months of June and December. A student will be allowed to appear in the Term-End Examination only after she/he has registered for that course and submitted the assignment. For appearing in the Examination, every student has to submit an Examination form through online (www.mangalayatan.in)/ or offline before the due dates as given in the schedule of operations. If a student misses any term-end examination of a course for any reason, s/he may appear for any of them or all the courses subject to the maximum of 8 courses in the subsequent term-end examinations. This facility will be available until a student secures the minimum pass grade in the courses but up to a maximum period of four semesters, since the date of registration of the course is valid for four semesters. Beyond this period s/he may continue for another four semesters by getting Re-registration by paying fee again. In that case, the score of qualified assignments and/or term-end examination will be retained and the student will be required to complete the left out requirements of such re-registered courses. Minimum requirement for passing a course will be 40% marks.

G. Laboratory Support and Library Resources

The library of Mangalayatan University aims to empower the teaching mission and intellectual culture of the community through availability through an organized collection of information as well as instruction in its access, relevance and evaluation.

The University Library enriches advance learning and discovery by providing access to a broad array of resources for education, research and creative work to ensure the rich interchange of ideas in the pursuit of knowledge.

The Directorate of Distance Education of Mangalayatan University has initiated the process of setting up a dedicated Library for ODL / OL program and acquiring printed books and e-books for this purpose. The required International and National subject journals are also provided. We have a full functioning community radio service on board (90.4 FM). We already have annual journal subscriptions and the capacity can be enlarged at later stages as the University lines up with more online journals.

The collection of the Library is rich and diverse especially in terms of the breadth and depth of coverage. Collection encompasses subjects in Management, Commerce, Information Technology, Computer Applications, and other allied areas. This collection further includes Books, Research Journals, Project Reports/Dissertations and online Journals.

The University has well equipped Computer Laboratories, Lecture Capturing Systems, Audio Video facilities, ICT enabled class rooms, Wi-Fi facilities etc.

H. Cost Estimate of the Programme and the Provisions

Initial expenses have been done by the University in terms of provision of infrastructure, manpower, printing of self-study material and other. The University intends to allocate expenses out of the total fee collection as per following details:

a) SLM Development and Distribution   :   20%
b) Postal Expense   :   10%
c) Salary and other Administrative expenses :   60%
d) Future development   :   10%

Once programmes are operational, fee receipt from the programme's budget to be planed as per the guidelines of University Grants Commission.
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I. Quality Assurance

The University has established the Centre for Internal Quality Assurance (CIQA) in the University campus. The CIQA will monitor and maintain the quality of the ODL programmes. It has the following objectives in making the compliances of quality implementations.

Objectives

The objective of Centre for Internal Quality Assurance is to develop and put in place a comprehensive and dynamic internal quality assurance system to ensure that programme of higher education in the Open and Distance Learning mode and Online mode being implemented by the Higher Educational Institution are of acceptable quality and further improved on continuous basis.

Functions of CIQA

The functions of Centre for Internal Quality Assurance would be following

1) To maintain quality in the services provided to the learners.

2) To undertake self-evaluative and reflective exercises for continual quality improvement in all the systems and processes of the Higher Educational Institution.

3) To contribute in the identification of the key areas in which Higher Educational Institution should maintain quality.

4) To devise mechanism to ensure that the quality of Open and Distance Learning programmes and Online programmes matches with the quality of relevant programmes in conventional mode.

5) To devise mechanisms for interaction with and obtaining feedback from all stakeholders namely, learners, teachers, staff, parents, society, employers, and Government for quality improvement.

6) To suggest measures to the authorities of Higher Educational Institution for qualitative improvement.

7) To facilitate the implementation of its recommendations through periodic reviews.

8) To organize workshops/ seminars/ symposium on quality related themes, ensure participation of all stakeholders, and disseminate the reports of such activities among all the stakeholders in Higher Educational Institution.

9) To develop and collate best practices in all areas leading to quality enhancement in services to the learners and disseminate the same all concerned in Higher Educational Institution.

10) To collect, collate and disseminate accurate, complete and reliable statistics about the quality of the programme (s).

11) To ensure that Programme Project Report for each programme is according to the norms and guidelines prescribed by the Commission and wherever necessary by the appropriate regulatory authority having control over the programme.

12) To put in place a mechanism to ensure the proper implementation of Programme Project Reports.

13) To maintain are cord of Annual Plans and Annual Reports of Higher Educational Institution, review them periodically and generate actionable reports.

14) To provide inputs to the Higher Educational Institution for restructuring of programmes in order to make them relevant to the job market.

15) To facilitate system based research on ways of creating learner centric environment and to bring about qualitative change in the entire system.

16) To act as a nodal coordinating unit for seeking assessment and accreditation from a designated body for accreditation such as NAAC etc.

17) To adopt measures to ensure internalization and institutionalization of quality enhancement practices through periodic accreditation and audit.

18) To coordinate between Higher Educational Institution and the Commission for various qualities related initiatives or guidelines.

19) To obtain information from other Higher Educational Institutions on various quality benchmarks or parameters and best practices.

20) To record activities undertaken on quality assurance in the form of an annual report of Centre for Internal Quality Assurance.

21) It will be mandatory for Centre for Internal Quality Assurance to submit Annual Reports to the Statutory Authorities or Bodies of the Higher Educational Institution about its activities at the end of each academic session. A copy of report in the format as specified by the Commission, duly approved by the statutory authorities of the Higher Educational Institution shall be submitted annually to the Commission.

After enrolling BCA Programme at Mangalayatan University in OL mode, student will exhibit understanding in areas such as critical thinking, effective communication and develop problem solving, scientific temperament with right set of ethics and attitude towards environment and sustainability. After completion of BCA. Programme, student will participate in multiple functional areas of science and technology.