Learning Outcome Based Scheme and Syllabus of Examination

for

Bachelor of Computer Application (BCA)

Courses Effective from Academic Session 2022-23

1. **Title of the program:** The title of the programme shall be Bachelor of Computer Application (B.C.A.).
2. **Eligibility for admission:** Eligibility of admission in BCA will be as follow:
   i. Student must passed H.Sc. (Class 12th) in any stream/Three year diploma course in any branch of technical education or equivalent from recognized board.
   ii. Student must have minimum aggregate of 40% marks in H.Sc. examination (Relaxation in percentage will be as per rule of C.G. Govt.).
3. **Scheme of examination:** Each theory paper is divided into two components as follow, however there shall not be any Internal Assessment (IA) for practical subject.
   i. University Examination (UE): 75 Marks
   ii. Internal Assessment (IA): 25 Marks
4. **Internal Assessment (IA):** The structure of IA shall be as follow:
   i. **Internal test (15 Marks):** There shall be three internal tests of 15 marks each, the average of best two shall be considered as the marks of internal test.
   ii. **Other activity (10 Marks):** Presentation/Group discussion /Assignment/ MOOC course certification (List of MOOC course shall be provided to the students through notice board/college website by the HOD concern after mapping it from SWAYAM, Coursera or any other similar popular platforms at the beginning of each academic session) or any other similar activity.
5. **University Examination (UE):** The pattern of examination shall be as follow:
   i. There shall be two sections of question paper: A and B
   ii. Section A (15 Marks) shall be compulsory and shall consists 15 short/objective questions each of one mark covering the entire syllabus.
   iii. Section B (60 Marks) shall consist questions from 5 unites as per the syllabus with internal choice (Student has to attempt only one question from each unit). Each unit shall be of 12 marks.

6. **Programme Learning Outcomes for Bachelor of Computer Application (BCA)**
   On completion of this programme, the students are expected to:
   PLO1: Apply knowledge of computing fundamentals, computing specialization, mathematics, and domain knowledge appropriate for the computing specialization to the abstraction and conceptualization of computing models from defined problems and requirements.
   PLO2: Identify, formulate, research literature, and solve complex computing problems reaching substantiated conclusions using fundamental principles of mathematics, computing sciences, and relevant domain disciplines.
   PLO3: Recognize the need, and have the ability, to engage in independent learning for continual development as a computing professional.
   PLO4: Demonstrate knowledge and understanding of the computing and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
   PLO5: Communicate effectively with the computing community, and with society at large, about complex computing activities by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions.
   PLO6: Identify a timely opportunity and using innovation to pursue that opportunity to create value and wealth for the betterment of the individual and society at large.
   PLO7: Develop software projects in various languages as per the demand of the market.
   PLO8: Work on research based projects.
   PLO9: Develop live software projects and will be capable of working in IT companies.

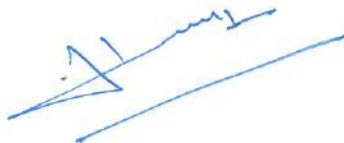**PLO10:** Explore and gain new knowledge through MOOC courses.

PLO11: Ability to pursue higher studies of specialization and to take up technical employment.

PLO12: Ability to formulate, to model, to design solutions, procedure and to use software tools to solve real world problems and evaluate.

PLO13: Apply standard Software Engineering practices and strategies in real-time software project development.

PLO14: The ability to work independently on a substantial software project and as an effective team member.

PLO15: Ability to operate, manage, deploy and configure software operation of an organization.

Scheme of BCA

| Year | Course Code | Subject Name | Theory/ Practical | Total Credit | Marks | | | |
| | | | | | UE | IA | Total | |
					Max	Max	Max	Min
First	BCA-1T	Discrete Mathematics	Theory	6	75	25	100	33
	BCA-2T	Computer Fundamental and MS office	Theory	4	75	25	100	33
	BCA-3T	Programming with C and C++	Theory	4	75	25	100	33
	BCA-4T	Data Structure	Theory	6	75	25	100	33
	BCA-5T	Digital Electronics	Theory	6	75	25	100	33
	BCA-6T	Hindi	Theory	5	50	-	50	17
	BCA-7T	English	Theory	5	50	-	50	17
	BCA-1P	LAB 1: PC software	Practical	2	100	-	100	33
	BCA-2P	LAB 2: Programming with C and C++	Practical	2	100	-	100	33
Second	BCA-8T	Numerical Mathematics	Theory	6	75	25	100	33
	BCA-9T	Operating System	Theory	6	75	25	100	33
	BCA-10T	Relational Database Management System	Theory	4	75	25	100	33
	BCA-11T	Computer Networking and Cyber Technology	Theory	6	75	25	100	33
	BCA-12T	Web Technology	Theory	4	75	25	100	33
	BCA-13T	Hindi	Theory	5	50	-	50	17
	BCA-14T	English	Theory	5	50	-	50	17
	BCA-3P	LAB 3: Relational Database Management System	Practical	2	100	-	100	17
	BCA-4P	LAB 4: Web Technology	Practical	2	100	-	100	17
Third	BCA-15T	Python Programming	Theory	4	75	25	100	33
	BCA-16T	Java Programming	Theory	4	75	25	100	33
	BCA-17T	Software Engineering	Theory	6	75	25	100	33
	BCA-18T	Artificial Intelligence and Expert System	Theory	6	75	25	100	33
	BCA-19T	E-Commerce	Theory	6	75	25	100	33
	BCA-20T	Communication Skill	Theory	5	100	-	100	33

	BCA-5P	LAB 5: Java	Practical	2	100	-	100	33
	BCA-6P	LAB 6: Python	Practical	2	100	-	100	33
	BCA-7P	Project	Practical	5	100	-	100	33

Note:

1. Syllabus of Foundation Courses: Hindi and English shall be similar to B.Sc. Computer Science/IT program.
2. Students has to pass environment studies subject as per the rule of any other B.Sc. program.
3. There shall be four extra credits in all the years of under graduation for internship/apprenticeship/skill development program. The certificate of extra credits would be provided by the concern university and is not mandatory.

Abbreviations used:

UE: University Exam
IA: Internal Assessment