ODL
PROGRAMS

PROGRAM GUIDE *for*

Bachelor of Computer Applications (BCA)

Semester 1 | Oct 2022



DDOE
Directorate of Distance and Online Education

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About the Program

Bachelor of Computer Applications program provides high-quality academic and technical training covering key concepts in computer applications and software design, development, and implementation.

1.0 Programme Objectives

PO 1 Apply the knowledge of mathematics, management, and computer applications to the solution of complex real-world problems.

PO 2 Identify, formulate, review, and analyze complex problems reaching substantiated conclusions using principles of mathematics, management sciences, and computer applications.

PO 3 Design solutions for complex real-world problems and design system components or processes that meet the specific needs with appropriate consideration for health andsafety, and cultural, societal, and environmental considerations.

PO 4 Create, select, and apply appropriate techniques, resources, and modern computer software and IT tools including prediction and modeling to complex software engineering activities with an understanding of the limitations.

PO 5 Understand the impact of professional software engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO 6 Apply ethical principles and commit to professional ethics and responsibilities andnorms of the development practice.

PO 7 Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO 8 Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO 9 Demonstrate knowledge and understanding of the software engineering 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.

PO 10 Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

2.0 Programme Structure

2.1 Duration of the Programme:

- Minimum duration of the programme: 3 years
- Maximum duration of the programme: 6 years
- Medium of instruction: English

2.2 Admission Eligibility:

- A person with 10+2 with Mathematics.

- Lateral Entry: Not Applicable

2.3 First Semester Scheme of BCA:

Table 2.1 First Semester Scheme.

Course Code	Course Name	Credits	Sem	Th/P/Pro
OBC 101	Mathematical Foundation for CS	4	1	Theory
OBC 102	Principles and Practices of Management	3	1	Theory
OBC 103	Digital Electronics	3	1	Theory
OBC 104	Computer Fundamentals and Introduction to C	4	1	Theory
OBC 121	Programming and Problem Solving	2	1	Practical
	Sem-1 Total Credits	**16**		

Note: Th – Theory; P- Practical; Pro – Project; T- Total; Cr – Credit

3.0 Academic Session Calendar – Oct 2022

Table 3.1- Calendar for Academic Session Oct 2022

Start of Academic Session	17th Oct 2022		
End of Academic Delivery Sessions	31st Jan 2023		
Last Date of Submission of Assignments (2 assignments/ course)	**Phase-I** 22nd Nov 2022	**Phase-II** 31st Dec 2022	**Phase-III** 31st Jan 2023

4.0 Theory, Practical Counselling Sessions and CPC

The counseling sessions shall be organized by the University in both online and on-campus mode. The recorded Webinars counseling session will also be made available on LMS for students to access. Apart from webinars, counseling sessions will also be made available in campus in the respective department.

Table 4.1 Semester-1 Structure

Course Code	Course Name	Th/P/Pro	Cr	CS* (hrs.)
OBC 101	Mathematical Foundation for CS	Th	4	8
OBC 102	Principles and Practices of Management	Th	3	8
OBC 103	Digital Electronics	Th	3	8
OBC 104	Computer Fundamentals and Introduction to C	Th	4	8
OBC 121	Programming and Problem Solving	P	2	6
	Total		**18**	

Note: CS - Counseling Sessions – Webinar; Th – Theory; P- Practical; Pro – Project.
* The column shows the maximum number of counseling sessions which may vary as per the subjectrequirements

4.1 Learning Material:

The soft copy of the e-learning material will be made available on LMS for the students to makeuse of. These materials are prepared exclusively for the DDOE students.

4.2 E-Lessons:

E-lesson/Webinars is online content of the course material. These e-lessons are specially designed Online lessons to enhance the self-learning capabilities of the DDOE students.

4.3 Counselling/Mentoring – Online:

For each course, live counseling/mentoring will be conducted through webinar sessions to give students the experience of real-time classroom teaching. The column 'CS' in Table 4.1 shows the number of recorded webinar sessions. The recorded sessions of the same will also be made available on LMS for the students to refer as per their convenience. However, apart from the recorded sessions, Live Question and Answer (Q&A) sessions will also be conducted mostly on weekends to address the course difficulties faced by the learner. The Q&A Webinar schedule will be announced on the DDOE portal.

Practical counselling/mentoring sessions are also conducted through webinar/PCP mode as perthe Course requirement.

4.4 Personal Contact Programme (PCP) – On Campus:

Apart from Online mode of counseling, DDOE also provides academic counseling on the University campus. It is to give an opportunity to the students to interact with the faculty members as well as their colleagues to establish their learning network while attending face-to-face Campus counseling. We encourage all students to enjoy the flavor of campus life during PCP classes.

I. PCP will be conducted on the main campus of the University.
II. PCP dates will be announced on the DDOE web Portal.
III. PCP will be hosted in the parent department in coordination with DDOE. The students willbe given complete counseling by the subject experts as per the course requirements. The Course practical works/Continuous assessment (wherever applicable) will be held during PCP.

5.0 LMS – Learning Management System

The LMS is an Online learning platform on which the student may log in and access all the course contents. It has been designed to match the flexible learning requirements of the Open Distance Learning aspirants.

Usefulness of the LMS:

- Course content will be updated from time to time as per the academic schedule. This content may be in the form of videos, quiz, e-course, discussion boards, webinars/ recording sessions, etc.
- Students may download the required information/ assignments as per their

convenience and upload their assignments as per the schedule provided given in Section 7, Table no 7.1.

- LMS makes the student only a 'click' away from the University campus.

6.0 Phase wise Online Counselling/Mentoring Schedule

Table 6.1 – Online Counselling/Mentoring Schedule: On LMS & through Webinars

Phase 1		Phase 2		Phase 3	
17-Oct-2022 to 22-Nov-2022		23-Nov-2022 to 31-Dec-2022		2-Jan-2023 to 31-Jan-2023	
Course Code	Course Name	Course Code	Course Name	Course Code	Course Name
OBC 102	Principles and Practices of Management	OBC 101	Mathematical foundation for Computer Science	OBC 103	Digital Electronics
OBC 104	Computer Fundamentals and Introduction to C	OBC 121	Programming and Problem-Solving Laboratory		

7.0 Assignment Schedule

Table 7.1 Assignment Submission Last date

Duration	Course Title and Course Code
Phase 1 Last date of submission of Assignment 22-Nov-2022	Principles and Practices of Management (OBC 102)
	Computer Fundamentals and Introduction to C (OBC 104)
Phase 2 Last date of submission of Assignment 31-Dec-2022	Mathematical foundation for Computer Science (OBC 101)
	Programming and Problem-Solving Laboratory (OBC 121)
Phase 3 Last date of submission of Assignment 31-Jan-2023	Digital Electronics (OBC 103)

INTERNAL ASSIGNMENT - Theory

Course Code: Last Date of Submission:

Course Title: Maximum Marks: 30

Assignment No.: Session: Sept.2022

Note:

1. The assignment will have two parts, A and B. Part A is of 10 MCQ-type Questions of 1 mark each.
2. Part B is of 20 Marks having 8 Descriptive Questions. Attempt any 5 out of 8.

Part-A (10 x 1 = 10 Marks)

Q.No.	Question	CO
1		
Ans key	A) C) B) D)	
2		
Ans key		
.		
.		
.		
.		
10		

Part-B (5 x 4 = 20 Marks)

Attempt any five from Q1 to Q8. Question

Q.No.	Question	CO
1		
2		
3		
4		
5		
6		
7		
8		

Assignment Answer script Format is as follows:

Student Name & Sign:			ID No.:
Course Title:			Assignment No.:
Program Name (Short):	Sem:	Course Code:	Total No. of Pages:

PART-1 – MCQ (Out of 10 Marks)

Q. No.	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Ans										

PART-2 (Out of 20 Marks)

Q.1) Ans:

Q2) Ans:

Instruction: 1. The **handwritten,** duly signed & scanned Assignment copy should be submitted/uploaded on the Moodle within the stipulated time. A copy of the same must be kept by the student for their future reference.
2. All the **header fields** must be **filled** and also scanned pages should be **converted into single pdf file** before uploading.
3. Assignment file name should be : - <student ID>_<Course Code>_Assign. No.> ; Example: - 20341081_MBA101_A1

GEU DDOE Examination and Evaluation Norms

1. Examination and Evaluation:

Ten-point, Letter Grade system is adopted by the University. Each grade indicates the level of performance in the course and the equivalent grade point for the purpose of computing the semester grade point average (SGPA) and the cumulative grade point average (CGPA).

The theory and practical papers are evaluated out of 100 marks each in which 70% weightage is given to Semester End Examinations and 30% weightage is given to the Continuous Assessment.

1.1 Marks distribution table –

Course Categories	Internal Assessment (IA) (Continuous Assessment)		Term End Examinations	Total
	Descriptive	Quiz(MCQ)	Total max. Marks	
Theory Course	20	10	70	100
Practical Course	20	10	70	100
Project, Seminar	30		70	100

1.1 Category of Course:

The courses in a semester are broadly classified into the following categories:

A. Theory Course
B. Practical Course
C. Project and Seminar

1.2 Continuous Assessment (Internal Assessment IA):

The Continuous Assessment (Internal Assessment) is an integral part of the performance evaluation of the students for each course in the programme. The students' performance in the continuous assessment is assessed either through online or offline Assignments/Quizzes/Practical sessions as the case may be.

A. **Continuous Assessment in a Theory Course** (**Maximum marks 30):**
   i. The students must appear for Quiz (MCQ) as part of internal assessment based on the requirement of the course. The details are given in the respective program guide.
   ii. The students must submit **two** Assignments per course and **average of the two** Assignments are considered for internal assessment Marks.
   iii. The Internal Assignment (IA) questionnaire will be made available on the DDOE web portal/LMS for the students to access.
   iv. The students are required to write the answers, convert them into pdf format and upload the same on the web portal/LMS on or before the specified date.
   v. The last date of submission of the Assignments will be mentioned in the Assignment.
   vi. The students should clearly write their Name, Enrollment Number, Semester, Program name, Course Code and Course Title on the top of the Assignment

before uploading the same. The students must ensure that the report is fully complete in all respects before uploading it on the Web portal.

vii. The **Assignment must be handwritten**. The Scanned copy of the Assignment answer sheet which is duly signed by the student along with the student details should be uploaded on the web portal/LMS in the **pdf format as a single file**. The students must ensure that the correct copy of the Assignment is uploaded and must keep the correct copy of the uploaded Assignment for their reference.

B. Practical Course Continuous Assessment (Maximum Marks 30):

i. The Continuous Assessment in a Practical course is based on the conduction of Practical (lab work and lab records).

ii. The practical assessment will have two major parts, lab works/records and Viva-voice. The total maximum number of marks for the Continuous Assessment in a practical course is 30 (20 marks for lab works/ records + 10 marks for Quiz/Viva-voice).

iii. More detailed instructions regarding the lab/Practical work will be available in the respective programme guide.

C. Project and Seminar Continuous Assessment (Out of total 30)

i. Continuous Assessment in a Project and Seminar will be based on the work assigned.

ii. The students will be required to submit the written report as per the guidelines and within the specified date.

iii. Students should clearly write their Name, Enrolment Number, Semester, Program Name, Course Code and Course Title on the top of the prescribed report format along with the signature of the Local Guide (if any) before uploading the same. The students must ensure that report is fully completed in all respects before uploading on the portal.

iv. The soft copy of the report which is duly signed by the student and scanned along with the student details should be uploaded **as a single file** on the web portal/LMS in the pdf format. The students must ensure that the correct copy of the report is uploaded and must keep the correct copy of the uploaded report for their reference.

v. The students must ensure that there is no plagiarism in the report submitted.

1.3 The Assessment Norms:

a. The Course may have Theory as well as Practical (Refer to scheme table of respective programme).

b. The Theory Courses, Practical Courses, Projects and Seminars will consist of Semester-End Exam and Continuous Assessments (Internal Assessment - IA).

c. The weightage for IA = 30%

d. The weightage for **S**emester-**E**nd **E**xam (**SEE**) = 70%

e. Results of those students who have not submitted their Internal Assignment shall be withheld till he/she submits the Internal Assignment.

1.4 Eligibility to appear in the Semester End Examinations:

a. Fees must be fully paid.

b. Students are expected to complete all the Internal Assessments before **S**emester **E**nd **E**xaminations (SEE).

The Reappearing (backlog paper) students must fill online examination form; however,

students reappearing for the course will have to pay the examination fee prescribed by the University at the time of filling the online exam form. The e-Hall ticket will be made available on the web portal for the students to download. The detailed instructions along with the date sheet will be notified on the web portal in advance.

2 Semester End Examinations Credit and Grade point system of Evaluation:

2.1 Examinations:

The theory, practical, Project and Seminar papers Semester End Examinations mark distribution is given in **Table 1.1**.

i. The Semester End Examinations for **Theory/practical/Project** paper/s are conducted by the University at the end of each semester by "Online Mode" for Online Programs and by "Campus Mode" for Open Distance Programs.
   Note:
   - "Online Mode": Proctored Online Examinations
   - "Campus Mode": Examinations at the University Campuses

ii. **Project and Seminar:** The students will be required to make a PowerPoint presentation of their project work (report/prototype) before the examiners and to submit the project/Seminar report. The details in this regard will be provided in the project guidelines.

2.2 System of Awarding Grades:

a. The total marks obtained in the Internal Assessment and Semester End Examination will be converted into grades. Kindly refer Table 2.6.1 for Letter Grading System.
b. The grades shall be awarded on the basis of cutoff marks or grade boundaries decided as follows:
c. A histogram is plotted: Marks vs frequency (number of students).
d. The grade boundaries are decided on the following basis:
   - Up to 10% of students can get 'O' grades.
e. Students securing 40 marks or above shall not be awarded an F grade. They shall be put in P grade.
f. There shall be a Grade Moderation Committee constituted by the Vice Chancellor to scrutinize the grade boundaries.

2.3 Minimum marks to Obtain Pass Grade:

Following Criteria should be satisfied to obtain Pass Grade in a paper;

1. Theory Paper: The candidate must score a minimum of 40% in Semester End theory Exam and an overall 40% (Semester End Exam + Internal assessment).
2. Practical/Project Paper: The candidate must score a minimum of 40% in Semester End practical/Project Exam and an overall 50% (Semester End Exam + Internal assessment).

2.4 Grace Mark Policy:

Grace marks shall be awarded only to obtain Pass Grade in Semester End Exam theory papers as per the following criteria;

2.4.1 Grace marks of 10 (ten) shall be divided among a maximum of 3 (three) theory courses not exceeding 5 (five) marks in each paper.

2.5 Promotion to Next Semester:

Students can carry forward all subjects to his/her next semester. However, one must complete (pass) all the subjects of the programme within the maximum duration of the programme.
The maximum duration of the program is = ($n + 2 + 1$*); where, **'n'** stands for minimum duration of the program and '1*****' stands for 1 (one) additional year provided Academic Council approves the same.

2.6 Letter Grading System:

Ten-point Letter grades will be awarded to the students as indicated below. Each letter grade indicates the level of performance in the course and grade point for the purpose of computing the SGPA and CGPA.

Table 2.6.1: Letter Grading System (IA: Internal Assessment; SEE: Sem End Exam)

Percent Marks in a Course (IA+SEE)	Grades	Grade points	Rating
>85	O	10	Outstanding
75-84	A+	9	Excellent
65-74	A	8	Very Good
55-64	B+	7	Good
50-54	B	6	Above average
45-49	C	5	Average
40-44	P	4	Pass
Less than 40	F	0	Fail
	AB	0	Absent
	DB	0	Debarred

2.6.1 Grades **'P'** to **'O'** are called Pass Grades; there is no scope to reappear in the exams for grade improvement once declared "PASSED" in given course.

2.6.2 AB (Absent): If the student is eligible to appear for the said semester end exam (Re-appear (backlog paper) case: Eligible and filled the Semester End Exams form) and s/he **not** appeared in the Semester End Exam.

2.6.3 F Grade: This Grade is awarded to the student who has attended the Semester End Examination of the Course (subject) but failed to secure Pass marks in that Course. In this case student has to reappear in the examination in the Course (subject) after filling the reappearing examination form by paying the prescribed examination fee.

2.6.4 All the even and odd semester end examinations are conducted separately. For example, all the odd semester examinations are scheduled in the morning session then, all the even semester examinations are to be scheduled in the afternoon session and visa-versa. A student in the current semester (odd or even) will get a chance to re-appear in his or her previous semester (even or odd) during the current session semester end examinations. In other words, a student in the odd semester can get to re-appear in all the papers of this/her one previous even

semester or only a selected paper of previous even semesters and visa-versa.

Say for example, if a student is currently studying in the fifth semester, then, he/she can get the chance to re-appear in all the papers of either 4th semester or 2nd semester only. And if he/she has back paper both in 4th and 2nd semester, he/she can reappear provided there is no clash of time between 4th and 2nd semester papers in which he/she has to re-appear.

However, University has the right to make changes as and when required.

2.7 SGPA and CGPA (Semester and Cumulative Grade Point Average):

SGPA (Semester Grade Point Average): This is the weighted average of all the grades awarded to the student in the semester.
CGPA (Cumulative Grade Point Average): This is the weighted average of all the grades awarded to the student since his/her entry into the university up to and including latest semester.

Calculation of SGPA & CGPA

$$SGPA = \frac{\sum_{x=1}^{n} C_x * (GP)_x}{\sum_{x=1}^{n} C_x}$$

$$CGPA = \frac{\sum_{x=1}^{m} C_x * (GP)_x}{\sum_{x=1}^{m} C_x}$$

Notations

- 'x' stands for number of courses (1, 2,…'n' or 'm')
- 'n' stands for total number of courses in a semester (For SGPA)
- 'm' stands for total number of courses up to the semester for which CGPA is calculated
- 'C' stands for Credit Total of the course.
- '(GP)' stands for Grade Point of the course scored by the student (check the table 2.6.1)

3. Semester End Theory Examinations Question paper pattern: -

Term end theory question paper will cover the whole syllabus and will have TWO sections (A and B).

3.1 The section A will consist of total 20 Multiple Choice Questions (MCQ) / fill in the blank/one liner type questions and each question will carry ONE mark. All questions of Section A are compulsory.

3.2 Section - B will consists of seven questions out of which FIVE questions are to be answered. The Section-B total maximum mark is 50. Further instructions will be available in the question paper.

4. Answer script re-valuation:

4.1 If any student wishes to apply for re-valuation of results, he/she must apply for the same **within 30 (thirty) days** from the date of declaration of the results. However, students wish to apply for re-valuation **will have to pay the re-valuation fee prescribed by the University from time to time.**

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