



**GOVERNMENT COLLEGE (AUTONOMOUS)
KALABURAGI**

**UNDER-GRADUATE DEPARTMENT OF
COMPUTER SCIENCE**

**COURSE MATRIX AND SYLLABUS OF
B.Sc. COURSE BASED ON
STATE EDUCATION POLICY**

**EFFECTIVE FROM THE
ACADEMIC YEAR 2024-25**

Approved by the BOS vide Resolution No . Dated.....

GOVERNMENT COLLEGE (AUTONOMOUS) KALABURAGI
Department of Computer Science
Course Matrix of Bachelor of Science in Computer Science
(With effect from the Academic year 2024-25 and onwards)

Course Code	Title of the Course	Teaching per week L:T:P	Credits	Teaching Hours / week	Marks Allocation					Total Max. Marks
					Internal		Semester end Exam			
					Max Marks	Min Marks	Duration	Max Marks	Min Marks	
Semester – I										
D SCT1	C-Programming concepts	3:0:4	3	3	20	--	3 hrs	80	32	100
DSCP1	Practical-I		2	4	10	--	2hrs	40	16	50
Total			5							150
Semester – II										
D SCT2	Database Management Systems	3:0:4	3	3	20	--	3 hrs	80	32	100
DSCP2	Practical-II		2	4	10	--	2hrs	40	16	50
Total			5							150

Total Credits for the Course:10

Note: Course = DSC: Discipline Specific Core Course

DSE= Discipline Specific Elective, L=Lecture, T=Tutorial, P=Practical, Practical/Batch = 15 Students

(Shivakumar Kalburgi)

(Asma Nikhat)

(Prayaga Siddappa)

(Dr.Vijaylaxmi M B)

(Dr.Veershetty C)

(Shivanand S Rumma)

(Govind Pujari)

(Pooja)



GOVT OF KARNATAKA
(Department of Collegiate Education)
GOVERNMENT COLLEGE (AUTONOMOUS) KALABURAGI
(Reaccredited 'B+' Grade from NAAC)
SEDAM ROAD KALABURAGI – 585105

No.GCAK/ BOS(UG)/ (Dept) /SEP/2024-25/

Date: . .2024

OFFICE ORDER

- Sub : Appointment of Members of Board of Studies (UG) in Computer Science**
Ref :1. UGC Revised Guidelines for Autonomous College dt.19.01.2018
2. Karnataka Govt. Order No: ED 166 UNE 2023, BENGALURU, Dt:08.05.2024
3. Registrar,GUK Letter No.GUK/BOS/2017-18/2547 dated 24/01/2018.
4. Resolution of the DC meeting held on

Advert to the above cited subject and references, the Board of Studies (UG) in Computer Science has been constituted as shown below.

PROCEEDINGS OF THE BOS MEETING

The meeting of Board of Studies in Computer Science (UG) held onin the Department of Computer Science, Government College (Autonomous), Kalaburagi to frame and approve the syllabus and pattern of question paper of B.Sc. course.

Members Present:

Chairman welcomed the members and highlighted the necessity of conduct of Board of Studies meeting. The committee took up Item-I and II of the agenda for discussion and finalisation.

1	Shivakumar Kalburgi Assistant Professor Department of computer science Govt College(Autonomous), Kalaburagi	Chairman
2	Asma Nikhat Assistant Professor Department of computer science Govt College(Autonomous), Kalaburagi	Member
3	Prayaga Siddappa Assistant Professor Department of computer science Govt College(Autonomous), Kalaburagi	Member
4	Dr.Vijaylaxmi M B Associate Professor Department of computer science GFGC,Womens college kalburgi Akkamahdevi University Vijayapur	External Member
5	Dr.Veershetty C Associate Professor Department of computer science,GFGC Basavakalyan ,Bidar University ,Bidar	External Member
6	Shivanand S Rumma Chairman Department Of Computer Science Gulbarga University, Kalaburagi	university Nominee
7	GovindPujari IKON Software Solutions Kalaburagi	Professional Member
8	Pooja	Alumni student

Item-I: To frame and approve the syllabus

The members thoroughly discussed over the papers to be taught and their contents and resolved to have the following courses.

Course Code	Title of the Course
FIRST SEMESTER	
DSCT1	C-Programming concepts
DSCP 1	Practical-I
SECOND SEMESTER	
DSCT 2	Database Management Systems
DSCP 2	Practical-II

The committee also approved the syllabus of all the above courses.

Item-II: To Approve the Pattern of Question Paper DSCT

It is resolved to adopt the following pattern of question paper.

Section A:Maximum Marks – 20

Ten questions shall be answered out of Twelve questions. Each question carries two marks. Minimum Three questions from each unit should be taken.

Section B:Maximum Marks – 20

. Six questions shall be answered out of Eight questions. Each question carries Five marks. Minimum Two question from each unit should be taken.

Section C:Maximum Marks – 40

Three questions shall be answered out of Four questions. Each question carries Ten marks. Minimum One question from each unit should be taken

(Shivakumar Kalburgi)

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(Govind Pujari)

(Pooja)

**QUESTION PAPER PATTERN FOR DSC (MAJOR) SUBJECTS UNDER
STATE EDUCATION POLICY (WITH EFFECT FROM 2024-25)**

(SEMESTER I TO II)

SUBJECT: Computer Science

TITLE OF THE PAPER:

SEMESTER: I and II

Time: 3 Hours

Max. Marks: 80

Section – A

I Answer any TEN of the following

(2x10=20)

1. }
2. } From Unit 1
3. }
4. }
5. } From Unit 2
6. }
7. }
8. } From Unit 3
9. }
10. }
11. } From Unit 4
12. }

Section – B

II Answer any SIX of the following

(5x6=30)

13. }
14. } From Unit 1
15. }
16. } From Unit 2
17. }
18. } From Unit 3
19. }
20. } From Unit 4

Section – C

II Answer any THREE of the following

(10x3=30)

21. From Unit 1
22. From Unit 2
23. From Unit 3
24. From Unit 4

(Shivakumar Kalburgi)

(Asma Nikhat)

(Prayaga Siddappa)

(Dr.Vijaylaxmi M B)

(Dr.Veershetty C)

(Shivanand S Rumma)

(Govind Pujari)

(Pooja)

CONTENT

SI No	Title	Page No
1	FIRST SEMESTER	
2	SECOND SEMESTER	

B.Sc. I SEMESTER COMPUTER SCIENCE

(w.e.f 2024-25 and onwards)

DSCT 1: C-Programming Concepts

Teaching: 3Hrs./Week

Credits: 03 :48Hrs

Max Marks: 80

I.A.Marks: 20

UNIT-I

12Hours

Fundamentals of Computers: Introduction to Computers - Computer Definition, Characteristics of Computers, Types of Computers, Block diagram of computer, Input and output devices, Number Systems – different types ;Types of Software–System Software and Utility Software; Computer Languages - Machine Level, Assembly Level & High Level Languages ; Algorithm, Flowchart

UNIT-II

12Hours

Introduction to C Programming: Features of C, Structure of a C Program, Creating and Executing a C Program, Compilation process in C.

C Programming Basic Concepts: C tokens - keywords, identifiers, constants, and variables, Data types; Declaration & initialization of variables,

Input and output with C: Formatted I/O functions – *printf* and *scanf*, control strings and escape Sequence, output specifications with *printf* functions; Unformatted I/O functions to read and display single character and a string - *getchar*, *putchar*, C Operators & Expressions: Arithmetic operators, Relational operators, Logical operators, Assignment operators, Increment & Decrement operators

UNIT-III

12Hours

Control Statements: Decision making Statements - *Simple if*, *if_else*, *nested if_else*, *Switch-case*, *goto*, *break* & *continue* statements, Looping Statements - *while*, *do-while*, *for* loops, Nested loops.

Arrays: One Dimensional arrays - Declaration, Initialization and Memory representation; Two Dimensional arrays - Declaration, strings: string handling functions, Pointers in C: Declaring and initializing pointers, accessing address and value of variables using pointers, Pointers and Arrays.

UNIT-IV

12Hours

User Defined Functions: Need for user defined functions; Format of C user defined functions; Components of user defined functions - return type, name, parameter list, function body, return statement and function call; Categories of user defined functions - With and without parameters and return type.

User defined data types: Structures - Structure Definition, Advantages of Structure, declaring structure variables, accessing structure members, Structure members initialization, comparing structure variables, Array of Structures; Unions - Union definition; difference between Structures and Unions.

**B.Sc.I SEMESTER COMPUTER SCIENCE
PRACTICALS-I
(w.e.f 2024-25 and onwards)**

Teaching: 4Hrs./ Week	DSCP 1	Max Marks: 40
Credits: 02		I.A.Marks: 10
Practical-I:C-Programming Concepts		

B.Sc. II SEMESTER COMPUTER SCIENCE

(w.e.f 2024-25 and onwards)

DSCT 2: Database Management Systems

Teaching: 3Hrs./ Week
Credits: 03 :48Hrs

Max Marks: 80
I.A.Marks: 20

UNIT-I

12Hours

Introduction to Database Management Systems: Characteristics of database approach, data models, DBMS architecture and data independence. Database languages and interfaces

Entity Relationship and Enhanced ER Modeling: Entity types, relationships, Attributes, types of attributes, Relationship between entities, Relationship types, roles and structural constraints.

UNIT-II

12Hours

Relational Data Model :Basic concepts, relational constraints, relational algebra, operations, set theoretical operations on relations, join operations, aggregate functions and grouping

SQL Concepts :Basics of SQL, DDL, DML, DCL, structure creation, alteration, defining constraints Primarykey, foreignkey..

UNIT-III

12Hours

Data Normalization First Normal Form, Second Normal Form, Third Normal Form, Boyce-codd normal form, Query Processing Transaction Management: Introduction to Transaction Processing, read write operations The last update problem, dirty Read problem, ACID Properties Deadlock and Starvation

UNIT-IV

12Hours

PL/SQL: Structure, Data types, Declaring Variables, Conditional Statements, Looping Statements.

Reference Books:

1. R. Elmasri, S.B. Navathe, Fundamentals of Database Systems 6th Edition, Pearson Education, 2010.
2. R. Ramakrishanan, J. Gehrke, Database Management Systems 3rd Edition, McGraw-Hill, 2002.
3. A. Silberschatz, H.F. Korth, S. Sudarshan, Database System Concepts 6th Edition, McGraw Hill, 2010.
4. R. Elmasri, S.B. Navathe Database Systems Models, Languages, Design and application

**B.Sc. II SEMESTER COMPUTER SCIENCE
PRACTICALS-II
(w.e.f 2024-25 and onwards)**

Teaching: 4Hrs./ Week	DSCP 2	Max Marks: 40
Credits: 02		I.A.Marks: 10
Practical-II: Database Management System		

Note: Practical based on syllabus for above Course for B,Sc I/II/ SEMESTER

Practical/Batch = 15Students